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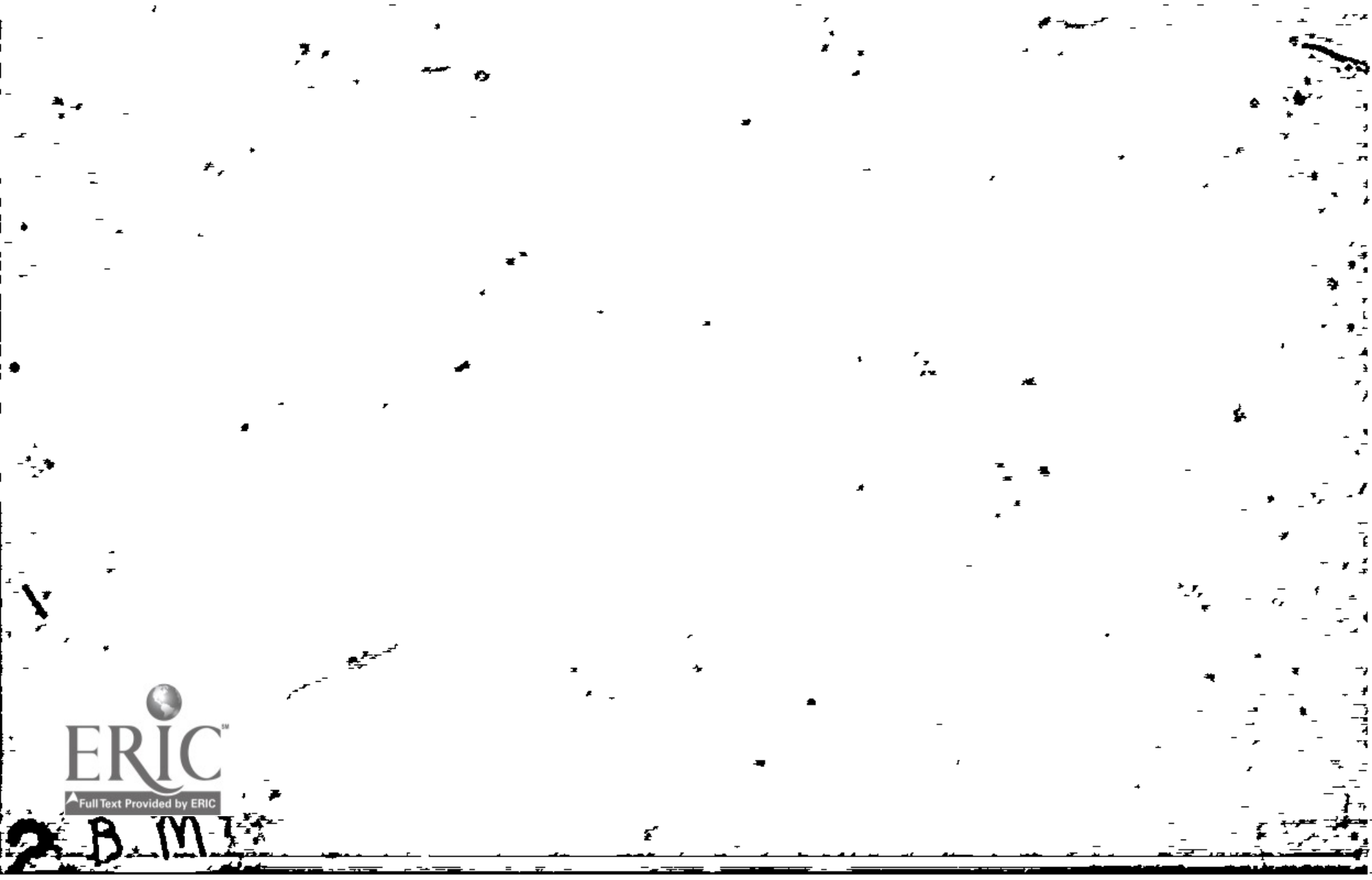

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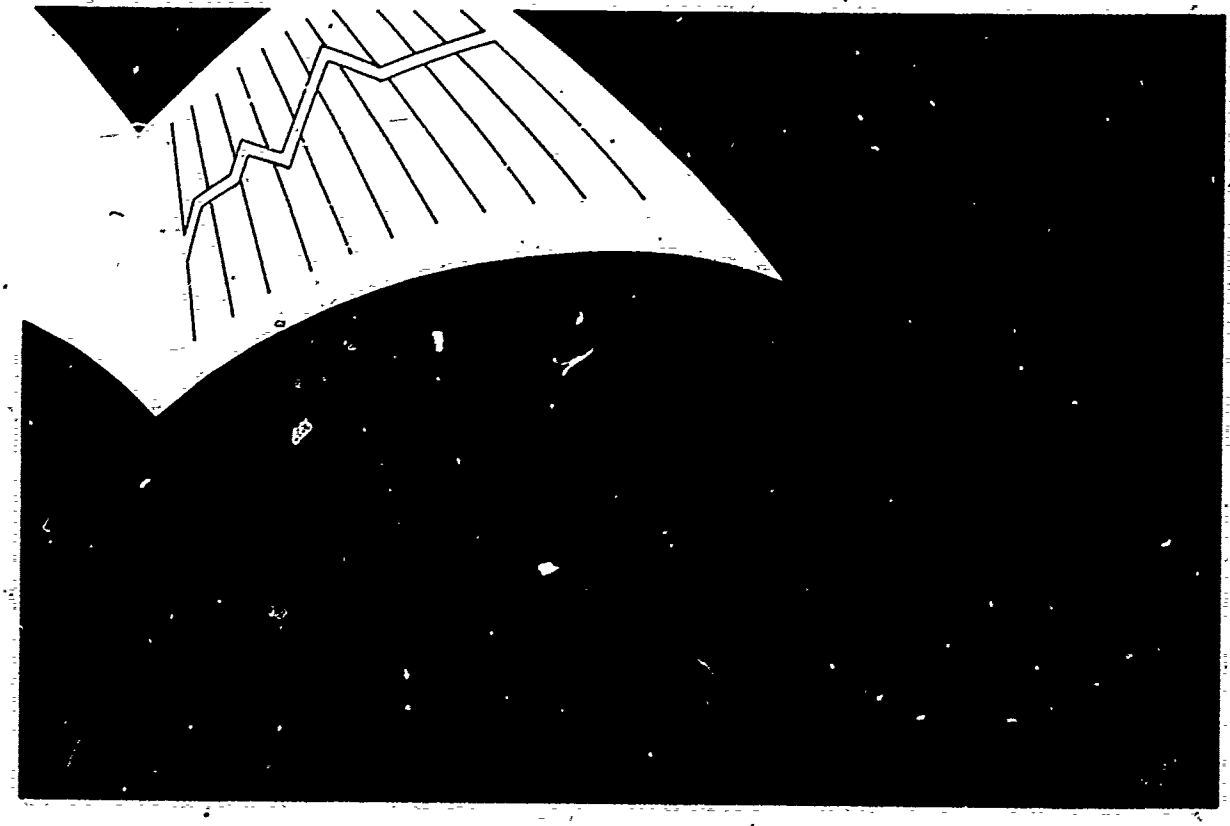
ABSTRACT

In 1978 the 95th Congress is faced with a number of proposals that could alter significantly the federal role in postsecondary education. These included modifications in student assistance programs and adoption of tuition tax credits that would not only increase substantially the amount of federal funding for postsecondary education but also broaden the focus of federal efforts to provide increased assistance to middle-income students and families to reduce the burden of college costs. This paper examines current federal funding for higher education and analyzes the probable impact of the various proposals under discussion within Congress. (MSE)

Federal Assistance for Postsecondary Education: Options for Fiscal Year 1979

May 1978



CONGRESSIONAL BUDGET OFFICE
CONGRESS OF THE UNITED STATES

PREFACE

In 1978, the Members of the 95th Congress are faced with a number of proposals that could alter significantly the federal role in postsecondary education. These proposals include modifications in student assistance programs and adoption of tuition tax credits that would not only increase substantially the amount of federal funding for postsecondary education, but also would broaden the focus of federal efforts to provide increased assistance to middle-income students and families in order to reduce the burden of college costs. This paper examines current federal funding for higher education and analyzes the probable impact of the various proposals under discussion within the Congress.

This report is provided in response to requests from the Senate Budget Committee, the Senate Finance Committee, and the Subcommittee on Postsecondary Education of the House Committee on Education and Labor. In accordance with the Congressional Budget Office's mandate to provide objective and impartial analyses of budget issues, the report contains no recommendations.

The report was prepared by David Longanecker, with the assistance of Steven Chadima, Richard Wabnick, and Larry Wilson, under the direction of Robert D. Reischauer and David S. Mundel. John Shiels developed the tax credit simulation model used in preparing estimates for this paper. Special thanks go to Martha Anne McIntosh for her clerical assistance throughout the preparation of this paper, and to Jill Bury, Janet Fain, Norma Leake, and Toni Wright. The author also wishes to thank the many reviewers, particularly Alfred Fitt, Deborah Kalcevic, and Cheryl Smith, who provided helpful guidance during the writing of this paper. The manuscript was edited by Patricia H. Johnston.

Alice M. Rivlin
Director

April 1978

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(continued)

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(continued)

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SUMMARY

This year may become the most important for postsecondary education in the past decade. Not only are large increases in the level of federal funding being considered, but the diverse proposals under consideration reflect quite different philosophies of how and to whom federal assistance should be provided. Since the late 1960s, the emphasis of the federal government in postsecondary education has been on the goal of enhancing equality of educational opportunity, and students from low- and moderate-income families have received substantial increases in aid. At present, however, a new focus appears to be evolving that would increase assistance to middle-income families (roughly $15,000-$25,000 in annual income) in order to reduce the burden of college costs. In addition to expansion of the current direct spending programs, tax credits for educational expenses have been proposed.

CURRENT POLICY FOR POSTSECONDARY EDUCATION

For fiscal year 1978, postsecondary educational institutions and students will receive $9.9 billion in federal support through direct spending programs and foregone tax revenues. Most of this, approximately 75 percent, will go into programs designed primarily to enhance equality of educational opportunity--enabling students from low- and moderate-income families to attend postsecondary educational institutions, an opportunity that they would otherwise not have. Another 15 percent will be directed to programs that primarily reduce the burden of attending college for students who generally would be able to attend without the assistance. About 10 percent of all federal funds will go directly to institutions of higher education.

The effect of the federal programs in achieving these objectives has been mixed. While a great amount of effort has been expended to enhance equality of educational opportunity, the disadvantaged and poor are only slightly more likely to be in college today than they were ten years ago and they are still less than half as likely to attend college as are children from higher-income families. There is no doubt, however, that federal student assistance programs make it possible for many students to attend college and to select institutions that meet their unique

needs who otherwise would have been unable to afford higher education. Institutional aid has helped sustain such institutions as predominantly black colleges during financially troubled times, and has provided an effective incentive for other institutions to provide special services for disadvantaged students.

Different programs benefit different types of students. Need-based federal programs, such as Basic Educational Opportunity Grants (BEOG), Supplemental Educational Opportunity Grants (SEOG), and State Student Incentive Grants (SSIG), assist primarily students from lower-income families. In fiscal year 1978, 94 percent of BEOG and SEOG funds will be provided to students from families with incomes under $15,000. Student loan programs, on the other hand, are more available to middle-income students. Nearly one-third of the loans provided through Guaranteed Student Loans (GSL) and National Direct Student Loans (NDSL) in fiscal year 1978 will be borrowed by students from families with incomes between $15,000 and $25,000. Benefits from tax expenditures also are spread throughout the population, although relatively few of these benefits help lower-income families. Veterans' benefits and social security student benefits, though not based on need, assist primarily students from lower-income families because of the economic characteristics of the eligible populations.

THE SHIFTING FOCUS OF THE FEDERAL ROLE--MAJOR PROPOSALS FOR FUNDING POSTSECONDARY EDUCATION

The shift in emphasis toward students from middle-income families has resulted from the perception that these students are being squeezed out of higher education opportunities because of increasing college costs and the lack of middle-income student assistance. This perception of increasing burdens for middle-income students is not supported by the data. Enrollment rates among middle-income students declined somewhat in the mid-1970s, heightening concern that these youth were being forced out of higher education for financial reasons. More recently, however, enrollment rates of these students have increased. Furthermore, although the costs of college have risen faster than the cost of living, family incomes have continued to rise even faster. Student costs actually have declined slightly as a portion of family income. Appreciable increases in the level of federal assistance available to students from middle-income families have also occurred. Nevertheless, the concern for the plight of middle-income families is great and has led to a number of major proposals.

Two approaches--altered direct student assistance programs and tuition tax credits--are being proposed as mechanisms for directing increased federal support to middle-income families in an effort to reduce the burden these families face in meeting rising college costs.

Three direct assistance proposals--the Administration's proposal, S. 2539, and H.R. 11274--would extend eligibility for BEOG awards to students from middle-income families and also increase the proportion of families eligible for subsidized (guaranteed) student loans. The Administration's proposal would guarantee that students from families with incomes below $25,000 would receive at least a $250 Basic Grant. The House and Senate proposals would alter the BEOG grant allocation formula to provide middle-income students awards that decreased as incomes increase. Both the Administration and House proposals increase the awards for students who are not dependent on their parents (who generally have lower incomes). All three proposals would increase eligibility for Guaranteed Loans to students from families with incomes below $40,000 and would provide incentives to banks to increase participation in the Guaranteed Loan program.

Two proposals would provide tax credits for tuition and fee expenses. The tuition tax credit proposal reported out of the Senate Finance Committee (an amendment to H.R. 3946) would begin in 1978 by allowing refundable $250 maximum credits for undergraduate college students. By 1982 the program would expand to provide up to a $500 credit to all students in elementary, secondary, and postsecondary education. (An analysis of credits for elementary and secondary education is not included in this paper.) Currently there is a discrepency between the bill and the committee report with respect to how other student assistance should be considered in determining eligibility for the credit. The bill states that all student assistance must be applied toward tuition and only the remainder of the tuition costs can be claimed as a credit. The report states that other assistance could be applied to all educational costs.

The tax credit bill of the House Ways and Means Committee would allow student assistance to be applied to all educational expenses, similar to the Senate Finance report language. Unlike the Senate bill, however, the Ways and Means proposal is for a nonrefundable postsecondary tuition tax credit only, with a considerably lower maximum credit limit ($100 in calendar year 1978, $150 in 1979, and $250 in 1980).

SUMMARY TABLE. DISTRIBUTION OF INCREMENTAL INCREASES OVER CURRENT LAW OF MAJOR STUDENT ASSISTANCE PROPOSALS, BY INCOME CLASS: FISCAL YEAR 1979 FOR DIRECT SPENDING PROGRAMS AND FISCAL YEAR 1980 FOR TAX EXPENDITURE PROGRAMS, BENEFITS IN MILLIONS OF DOLLARS

Income Class	Current Law BEOG Funding	Increments to Current Law: Admin. BEOG Propos	Senate [illegible]sal	House BEOG Proposal	Senate Finance Bill (Tax Credit)	Senate Finance Report (Tax Credit)	House Ways and Means Bill (Tax Credit)
$0-15,000							
Benefits	1,887	438	286	418	101	355	128
Percent	92	46	25	32	14	32	21
$15-25,000							
Benefits	167	509	750	749	222	323	200
Percent	8	54	64	58	31	29	33
$25,000+							
Benefits	0	0	125	125	394	433	284
Percent	0	0	11	10	55	39	46
Total							
Benefits	2,054	947	1,161	1,292	717	1,111	612
Percent	100	100	100	100	100	100	100

CHAPTER I INTRODUCTION

Establishing future federal policy in postsecondary education involves four steps. First, federal goals must be identified. Second, it must be determined to what extent each goal has been achieved and to what extent each remains a problem. Third, choices must be made among competing goals, determining which ones will receive the highest priority for action. Fourth, selections must be made among the various techniques or mechanisms for accomplishing the goals that are to receive federal attention.

FEDERAL GOALS IN POSTSECONDARY EDUCATION

The role of the federal government in postsecondary education has never been clearly delineated by either the legislative or executive branch of government. The programs that have been enacted and their budgetary importance, however, do indicate that federal policy has been focused primarily on achieving three goals: promoting equality of educational opportunity, reducing the burden of college costs, and assuring a strong system of higher education.

Promoting Equality of Educational Opportunity

Equality of educational opportunity is a major goal of the federal government, reflecting a commitment to assure all Americans access to higher education. By helping to remove economic and social barriers, the government hopes to encourage students, who otherwise might not continue their schooling, to attend college. Many programs--including the Basic Educational Opportunity Grants Program (BEOGs), the Supplemental Educational Opportunity Grants Program (SEOGs), the National Direct Student Loan Program (NDSLs), and the College Work-Study Program (CWS)--focus on providing financial assistance to families and individuals who are needy. In addition to providing access to higher education, these programs also have been designed to provide individuals of differing financial status with the ability to select educational institutions that match their intellectual capabilities and their unique educational interests. In this way, these programs help to maintain the arena of diverse institutions that characterize American higher education.

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Reducing the Burden of College Costs

Whereas the first goal is to remove barriers for individuals who would not otherwise be able to attend postsecondary institutions, this second goal is to reduce the financial strain on families with students who most likely would continue their education even without government assistance. This federal role has most often found expression in the tax code or through student loan programs. For example, all families can claim a $750 deduction and a $35 credit from their federal income tax for college students whom they support, regardless of the student's earnings.

Recently, a number of proposals have been introduced that focus specifically on reducing the financial burden for middle-income families. 1/ These proposals include expanding the eligibility for federally subsidized and insured loans, providing a tax credit for tuition and fee costs, and altering eligiblity for existing direct student assistance programs (BEOGs, SEOGs, and CWS) to provide greater assistance to middle-income families.

Assuring a Strong System of Higher Education

Federal programs also assist in maintaining a strong and multifaceted system of higher education. By designing programs that allow individuals latitude in choosing the type of education they wish to pursue, the federal government helps sustain diversity in American higher education.

In addition to indirect aid to educational institutions through student aid programs, the federal government also assists

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1/ "Middle-income" is difficult to quantify precisely. For one thing, there are considerably divergent viewpoints on what portion of the population represents "the middle." Furthermore, income levels vary greatly throughout the United States, and incomes of equal size may have considerably different purchasing power in different regions of the country. For the purposes of this paper, middle-income is assumed to include families with incomes between $15,000 and $25,000 in 1979. This range includes approximately the middle one-third of families in the U.S.; thus, about one-third would fall below this middle-income range and one-third would be above this range.

institutions directly. Through programs such as Title III of the Higher Education Act of 1965 (Strengthening Developing Institutions), the federal government provides financial assistance to colleges and universities that provide unique contributions to higher education and that need financial assistance to ensure their continued financial stability. The federal government also provides financial assistance to institutions to encourage them to respond to federal priorities; to help defray the cost of complying with new federal requirements; and to help them respond to unanticipated crises. For example, the federal government provides assistance to institutions for the so-called TRIO Programs (including Upward Bound, Talent Search, Special Services for Disadvantaged Students, and Educational Opportunity Centers) in order to encourage institutions to attract and serve the special academic and social needs of students from disadvantaged backgrounds. Currently Title VII of the Higher Education Act (construction, reconstruction, and renovation of academic facilities) is being used to assist institutions respond to three national concerns: the need for energy efficiency, the need for greater occupational safety on campuses, and the need to make higher education facilities more accessible to handicapped individuals. 2/

RESULTS OF CURRENT EFFORTS IN MEETING FEDERAL GOALS

Promoting Equality of Educational Opportunity

For the past decade, the overriding objective of the federal government with respect to postsecondary education has been to enhance equality of educational opportunity. In the fiscal year 1978 budget, almost three-quarters of the $9.9 billion in federal expenditures for postsecondary education (excluding research support) is directed to accomplishing this goal. It is not clear, however, what specific measure would indicate that this goal had been achieved, although it is clear that poor and disadvantaged youth have not been able to reach their potential in the past because of financial barriers.

2/ Fiscal year 1978 is the first year in which funding ($4 million) has been appropriated for construction, reconstruction, and renovation.

Substantial research indicates that financial assistance ought to affect enrollment rates, 3/ but federal efforts have not been particularly successful in increasing the participation in postsecondary education of young adults from lower-income families. A recent Census study shows that the enrollment rate of dependent students from lower-income families (with incomes under $8,525) increased from 20.1 percent to 22.4 percent between 1973 and 1976. 4/ This increase followed six years during which enrollment rates for students from lower-income families fluctuated slightly but changed very little overall. During this same period of time, enrollment rates for students from all other income groups were declining slightly. Despite this increase in enrollment rates relative to the enrollment rates for other youth, young adults from lower-income families still are less than one-half as likely to attend college as students from higher income families. Other programs, that combine economic support with academic preparation (the Upward Bound program, for example) appear to have been relatively successful in encouraging disadvantaged youth to attend college and in heightening their educational aspirations. 5/ These programs, however, have received limited funding and thus reach only a small number of students. The Upward Bound Program, for example, reaches fewer than 5 percent of the persons in the target population that the program was designed to serve. 6/

3/ Stephen J. Carroll, Bryant M. Mori, Daniel A. Relles, and David J. Weinschrott, The Enrollment Effects of Federal Student Aid Policies (Santa Monica, Calif.: Rand Corporation, June 1977).

4/ U.S. Bureau of the Census, Population Characteristics: School Enrollment--Social and Economic Characteristics of Students (October 1976); Current Population Reports, Series P-20, No. 319 (1978).

5/ U.S. Department of Health, Education, and Welfare, Office of Education, Office of Planning, Budgeting, and Evaluation, Evaluation of the Upward Bound Program: A First Follow-Up (1977).

6/ U.S. Department of Health, Education, and Welfare, Office of Education, Office of Planning, Budgeting and Evaluation, Annual Evaluation Report on Programs Administered by the U.S. Office of Education, Fiscal Year 1976.

In sum, there appears to have been some progress in providing equality of educational opportunity. Existing federal programs have made it financially possible for many disadvantaged students to continue their education. But lack of more substantial success in attracting the poor and disadvantaged into higher education indicates that more effort will be required to achieve the goal of equality of educational opportunity.

Reducing the Financial Burden For Middle-Income Families

Currently, much concern is being expressed about the financial burden that increasing college costs are creating for parents of college students, particularly for middle-income families. Two questions, however, must be addressed in examining this goal. First, what is the evidence that the burden exists? Second, to what extent have current programs helped to alleviate the problem?

Financial burden is a relative concept: what is considered a reasonable financial obligation at one time may come to be considered an unreasonable financial burden at another time. It is difficult, therefore, to estimate what absolute measure reflects the achievement of a reduced or increased financial burden.

One reason for the heightened level of concern that college costs were creating an undue hardship was a noted decline in enrollment rates for middle-income students during the mid-1970s. Recent data, however, show that this trend has been reversed (see Table 1). 7/ The earlier downward trend may have been a result of other societal factors, including the end of the military draft and the effects of the recession, rather than the result of a decline in ability to afford postsecondary education.

Another reason for heightened concern has been the growth of college costs. In fact, the relative level of college costs has remained essentially constant rather than increasing during recent years. Though the costs of college attendance have risen faster than the cost of living (as measured by the Consumer Price Index [CPI]), this increase in costs has been offset by an even larger increase in family incomes. As a result, student

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7/ Census Bureau, op. cit.

TABLE 1. PERCENT OF 18
FAMILY INCOME,

Family Income	1967
$0-8,525	20.0
$8,525-17,050	37.9
$17,050-25,575	51.9
$25,575+	68.3
All Income Groups	39.1

SOURCE: CBO calculations

a/ A dependent family me

b/ Family income in 1976

OF 18- TO 24-YEAR-OLD DEPENDENT FAMILY MEMBERS a/
INCOME, b/ OCTOBER 1967 TO OCTOBER 1976

1967	1968	1969	1970	1971	1972	19
20.0	22.5	24.8	20.8	22.8	22.6	20.
37.9	38.5	38.8	36.6	35.4	34.2	31.
51.9	50.7	50.6	48.4	46.4	44.2	42.
68.3	63.0	65.2	61.7	61.8	56.9	56.
39.1	39.7	41.3	39.1	38.9	37.8	36.

lations based on data supplied by the Census Bureau.
mily member is a relative of the primary family head
in 1976 dollars, civilian noninstitutional population.

Y MEMBERS a/ ENROLLED IN COLLEGE, BY

1972	1973	1974	1975	1976
22.6	20.1	20.3	23.5	22.4
34.2	31.2	31.7	35.1	36.3
44.2	42.7	41.4	45.4	47.5
56.9	56.6	57.5	59.6	58.2
37.8	36.6	36.2	38.7	38.8

nsus Bureau.

family head other than the wife.

al population.

costs for both the public and private sectors of higher education have declined slightly as a proportion of family income (see Table 2). 8/

Concurrently, federal student assistance for middle-income students has continued to increase. Since its inception in 1965, the Guaranteed Student Loan Program (GSL), which has been the primary federal program designed to assist students from middle-income families, has continued to grow and assist increasing numbers of students. In 1976, this program was amended to extend eligibility to students from middle-income families with adjusted family incomes up to $25,000. The dollar amount of loans dispersed has increased 19 percent between 1976 and 1978, and most of the increase in volume has gone to newly eligible students from these middle-income families.

In sum, there is no evidence to indicate that the financial burden of sending children to college has been increasing. This should not be taken to mean, however, that the burden of sending a child to college is not significant. While the situation appears no worse than it was a decade ago, neither is it appreciably better. Therefore, to the extent to which college costs were a burden in the 1960s, they still present a financial strain. And there are certainly many middle-income families--especially families with students in expensive schools, families with more than one child in school and families in which the head of the household is the student--that find it difficult to pay the costs of postsecondary education.

Assuring A Strong System of Higher Education

In fiscal year 1978, approximately 10 percent of federal expenditures for postsecondary education (excluding research funding) will be directed to assuring a strong and diverse system of higher education. It is difficult, however, to judge the extent to which this goal has been achieved or to ascertain the success of existing programs.

8/ Congressional Budget Office, Federal Aid to Postsecondary Students: Tax Allowances and Alternative Subsidies, Background Paper (1978).

TABLE 2. FAMILY INCOME AND STUDENT CHARGES, CALENDAR YEARS 1967-1976

Year	Median Family Income a/			Total Student Charges		Student Charges as a Percent of Income of Families with 18-24 yr. Dependents		CPI
	All Families (1)	With 18-24 yr. Dependents (2)	With 18-24 yr. Dep. in College (3)	Public (4)	Private (5)	Public (4)÷(2)	Private (5)÷(2)	
1967	$ 6,811	$ 7,923	$ 9,816	$1,063	$2,205	12.9	26.8	100.0
1968	7,189	8,469	10,452	1,117	2,321	12.6	26.0	104.2
1969	7,770	9,123	11,295	1,204	2,531	12.2	25.4	109.8
1970	8,268	9,624	12,063	1,268	2,739	12.5	26.3	116.3
1971	8,681	10,095	12,727	1,357	2,917	12.8	27.1	121.3
1972	9,276	10,900	13,392	1,458	3,038	12.4	26.8	125.3
1973	10,273	11,897	14,679	1,517	3,164	12.3	25.5	133.1
1974	11,025	12,561	16,005	1,617	3,386	12.1	25.2	147.7
1975	11,505	13,199	16,784	1,748	3,667	12.3	25.7	161.2
1976	12,199	14,164	18,384	1,854	3,896	12.3	25.9	170.5
Percent Change 1967-1976	+79.1	+78.8	+87.3	+74.2	+76.7	-4.7	-3.4	70.5

SOURCE: U.S. Bureau of the Census, Current Population Reports and National Center for Education Statistics data; U.S. Department of Commerce, Survey of Current Business.

a/ Family incomes are those reported in the Bureau of the Census, October Current Population Survey, in which detailed questions about education are asked. The traditional and more comprehensive reporting of incomes is done in March of each year. The Bureau of the Census reports that, for the above period, October median family incomes ranged from 82 to 86 percent of the median family incomes reported in March.

A census family is two or more persons related by blood, marriage, or adoption, and residing together. All such persons are considered members of the same family. Columns (2) and (3) are incomes of primary families. A primary family includes a head of the household (family designated) as one of its members. Excluded from the sample of primary families here are those in which the 18-24-year-old dependent is either the designated head, the wife, or married. Only those in which the 18-24-year-old dependent is attending college full time are included in Column (3).

As with other federal educational goals, there is no absolute measure of success. What, for example, would be the ideal mix of public and private institutions to ensure a diverse system? Or, what share of its resources should the federal government provide in helping to address this need? These questions are not easily answered. The financial stability of postsecondary institutions is one indicator of how strong the system is, but there are conflicting reports on the financial health of postsecondary education. Some studies indicate that colleges and universities are in serious trouble and face a bleak future. Others contend that higher education is recovering well from the financial problems of the mid-1970s. 9/

In some instances federal assistance, which was a boon for higher education at one time, has become a liability in later years. For example, in the 1960s, considerable federal assistance was provided, both in the form of grants and low-interest loans, for the construction of educational facilities to meet the demand of a rapidly increasing college population. As enrollments have leveled off and declined on some campuses, the debt service to the federal government for facilities that no longer are being used to full capacity--has become a financial burden for some institutions.

9/ In September 1976, a research article in Change Magazine reported that approximately 50 percent of all institutions of higher education were in serious financial condition (either relatively unhealthy or unhealthy), with private institutions being in considerably worse financial shape than their public counterparts. (Andrew H. Upton, John Augenblick, and Joseph Heyison, "The Financial Change of Higher Education," Change Magazine, Vol. 8, #8, September 1976.) The Change article, however, has been refuted by the findings of other researchers. Bowen and Minter have indicated that "the phrase that best characterizes the current condition is stability without stagnation." They found little evidence of retrenchment in the form of program cuts, alterations in student-faculty ratios, or similar indexes. (Howard Bowen and John Minter, Annual Reports on Financial and Education Trends in The Private Sector of American Higher Education, Vol. 2, Washington, D.C.: Association of American Colleges, 1976.)

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From the period following World War II to the mid-1960s, higher education was expanding rapidly, and enhancing the growth of a strong system was a high national priority. In this milieu, institutional aid evolved as the dominant source of federal aid. Construction loans and grants assisted campuses in developing facilities with sufficient capacity to accommodate increasing enrollments. The Department of Housing and Urban Development provided low-interest loans for the construction of residence halls in which to house the influx of students.

By the late 1960s, however, the federal role in post-secondary education began to take on a new emphasis, one that focused on improving equality of educational opportunity. It had become increasingly apparent that many disadvantaged and minority Americans were unable to enjoy the benefits of postsecondary education. To accomplish this new goal, institutional aid was supplanted by student assistance. National Direct Student Loans, College Work-Study, and Educational Opportunity Grants (which later became Supplemental Educational Opportunity Grants) were established to assist students with financial need. The responsibility for administering these programs, however, remained with the individual campuses. The Guaranteed Student Loan program evolved somewhat differently. Its focus has been more on providing assistance to middle-income students, and it is administered by private lending institutions.

Over time, student assistance programs have become more directed toward helping only the most needy students. The two newest programs, enacted in 1972, are the Basic Educational Opportunity Grants Program (BEOGs) and the State Student Incentive Grants Program (SSIGs). The Basic Grants program is administered directly by the Office of Education, with much more strict regulation and oversight of the determination of student need than other older programs. SSIGs, though administered by the states and thus not as strictly regulated as the Basic Grants program, provide an incentive for states to increase their commitment to the goal of enhancing equality of opportunity.

With increased concern being directed to the goal of reducing the burden of college costs for middle-income families, two quite divergent approaches are being considered for providing

that, although discussed for more than two decades, has only recently been receiving increased support. Tax credit proponents believe their method of providing assistance is the most efficient, effective, and easily implemented alternative. The second approach, expanding directly appropriated education programs to provide educational benefits for middle-income families, is supported by the Administration as well as some members of the Congress. Proponents of this approach believe these programs represent the most equitable means of providing greater student assistance.

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is in school and for up to a year after termination of schooling. Interest of 7 percent is charged to the borrower thereafter. Loans made to students from families with incomes greater than $25,000 bear 7 percent interest to the student from the time they are issued. The federal government insures each loan. As an incentive to encourage lender participation, the government also pays a special allowance of up to 5 percent to lenders on all loans outstanding.

- National Direct Student Loans (NDSLs), established in 1958 under the National Defense Education Act, provide low-interest federal loans to students at participating institutions. Eligibility is based on financial need. The participating institution determines the size of the loan, but the total debt cannot exceed $5,000 for an undergraduate or $10,000 for a graduate student. The loan is interest free to the student while in school, but accrues interest at 3 percent per annum upon completion of schooling.

The major institutional assistance programs administered by the Office of Education include:

- Special programs for the disadvantaged--including Talent Search, Upward Bound, Special Services for Disadvantaged Students, and Educational Opportunity Centers--were created in 1972 to provide incentives for institutions to establish programs that meet the educational needs of disadvantaged students and that encourage disadvantaged students to attend college.

- Strengthening developing institutions, Title III of the Higher Education Act, was enacted in 1972 to provide assistance to strengthen the academic quality and management of developing institutions, particularly those serving primarily disadvantaged and minority students.

- Construction, reconstruction, and renovation of academic facilities program was originally included as part of the Higher Education Facilities Act of 1963, and is now Title VII of the Higher Education Act of 1965. This program provides grants and loans to help defray the costs of retrofitting facilities to accommodate handicapped students and to improve building safety and energy efficiency.

Postsecondary Education Programs Funded and Administered by Agencies Other Than The Office of Education

Both veterans' benefits and social security entitlements include educational assistance that contributes significant amounts of money to postsecondary students and institutions. While these entitlements are not subject to annual appropriations, both veterans' educational benefits and social security educational benefits currently are the suject of debate in the Congress.

- Veterans' Readjustment Benefits. The Veterans' Readjustment Benefits program, which currently provides virtually all veterans' educational benefits, was enacted in 1966. 1/ It provides up to 45 months of benefits to veterans who served prior to 1977. The monthly stipend is based on the size of the student veteran's family and whether the veteran is a full- or part-time student. The award is not adjusted for need or for varying institutional costs. The benefit is available to all veterans, but the education must be completed no more than ten years after discharge from active service.

- Social Security Benefits for Students. Enacted in 1965, these benefits provide continued social security benefits to full-time college students under 22 years of age. The size of the benefit depends upon the category of eligibility of the student's family. 2/

1/ A new veterans' program has been created for individuals entering the service after December 1976. Those wishing to participate in this program must contribute toward their future education while in the service. Their contribution is double matched by federal funds.

2/ Social Security Benefits for Students, a May 1977 CBO Background Paper, discusses social security student benefits and analyzes various options for the program.

Tax Expenditures for Postsecondary Education

Various tax expenditures provide benefits for postsecondary education in the form of reduced tax liabilities. 3/ These include a $750 personal exemption and a $35 tax credit for student dependents, the exclusion of fellowships and scholarships from taxable income, the exclusion of veterans' benefits and social security student benefits from taxable income, and the deduction of gifts and bequests to educational institutions.

Funding for Academic Science

Postsecondary education also benefits appreciably, though indirectly, from federal funding of research and development. In total, universities receive more than $3 billion annually in funds to conduct basic and applied research. This funding is channelled through a number of federal agencies to the receiving institutions. Because of the different nature and purposes of this funding, research and development is not discussed further in this paper.

FISCAL YEAR 1978 FUNDING OF MAJOR FEDERAL PROGRAMS FOR POSTSECONDARY EDUCATION

Major federal programs for postsecondary education are included in three areas, or subfunctions, of the budget. In addition to direct spending programs (see Table 3), there are tax expenditures, or revenue losses, associated with each of these areas. The three budget subfunctions are as follows:

- Subfunction 502, Higher Education, encompasses all programs included in the Higher Education Act of 1965 and the Higher Education Amendments of 1976.

3/ Tax expenditures are revenue losses from provisions of the tax law that provide special or selective tax relief. These revenue losses are called tax expenditures because they are very much like payments by the federal government, except that they are made through a reduction of taxes rather than by direct spending.

- Subfunction 601, Social Security, includes the payment to full-time student dependents of eligible disabled, retired, or deceased workers.

- Subfunction 702, Veterans' Readjustment Benefits, includes payments made under the G.I. Bill.

For fiscal year 1978 the projected direct funding and tax expenditures in these three subfunctions amount to $9.9 billion. Although this is less than was spent for the same areas in each of the preceding two years, the decline is fully attributable to a declining population of veterans using the G.I. Bill (see Table 3).

TABLE 3. SPENDING AND RECIPIENTS IN POSTSECONDARY STUDENT ASSISTANCE PROGRAMS: FUNDS IN MILLIONS OF DOLLARS, RECIPIENTS IN THOUSANDS, BY FISCAL YEARS

Budget Account	1976	1977	1978
Higher Education Account (502) a/			
Budget Authority	2,933	3,224	3,785
Outlays	2,213	2,632	3,304
Recipients b/	5,671	5,838	6,352
Social Security Account (601)			
Budget Authority	1,097	1,276	1,446
Outlays	1,097	1,276	1,446
Recipients	660	690	727
Veterans' Readjustment Benefits Account (702)			
Budget Authority	4,550	3,626	2,094
Outlays	4,151	2,930	2,596
Recipients	2,089	1,426	1,186

a/ Includes BEOG, SEOG, CWS, NDSL, GSL, and SSIG.
b/ Duplicated counts of recipients who receive more than one type of federal student assistance.

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Higher Education (Subfunction 502)

Funding has increased steadily for the major programs administered by the Office of Education. For student assistance programs, the budget authority increased 17 percent from fiscal year 1977 to fiscal year 1978. This was more than twice the increase of 8 percent in the total federal budget. Coincident with this increase in funding, the number of recipients of assistance from these programs increased by about 9 percent, which means the average benefit for each recipient increased approximately 8 percent. 4/ This is greater than the estimated increase of 6 percent in student costs between academic years 1977-1978 and 1978-1979. 5/

The growth in these programs results from a combination of legislative and administrative changes. The 1976 amendments to the Higher Education Act authorized an increase in the maximum Basic Grant award from $1,400 to $1,800 beginning with the 1978-79 school year, and increased funding in fiscal year 1978 appropriations for the BEOG program provided grants up to a maximum of $1,600.

Several changes increased the budget for the Guaranteed Student Loan program. The eligibility for subsidized loans was expanded to include students from families with adjusted family incomes under $25,000, up from a previous maximum of $15,000. A number of incentives also were provided to encourage lending institutions to increase their student loan portfolios.

4/ The number of recipients refers to the total number of awards from these programs. The actual number of students receiving federal aid is considerably smaller than the reported number of total awards. A survey by the American Council on Education indicates that more than 40 percent of the students receiving federal student assistance receive more than one form of federal assistance.

5/ The increase in educational expenses reported by the College Scholarship Service reflect only the increasing costs to the student (i.e., tuition, books, fees, travel, and room and board). The costs of providing higher education are increasing at a much higher rate than 6 percent. The Congressional Budget Office projects that the costs of providing this service will rise 9.1 percent in fiscal year 1978.

Even a quite substantial increase in the number of loans, however, results in relatively modest increases in federal costs. For example, in fiscal year 1977 $6.2 billion in loans were outstanding, requiring a federal subsidy of $325 million. 6/ But only $1 billion of this total was dispensed during fiscal year 1977. Even if banks expand their aggregate portfolios by 25 percent in response to the various incentives introduced in 1977, thus increasing the money available for loans in fiscal year 1978 to $1.25 billion, subsidy payments during this year would increase by only 7.4 percent, from $325 million to $349 million. 7/

Social Security Benefits (Subfunction 601)

Social security benefits for students are another growing sector of postsecondary funding. Expenditures will increase about 11 percent between fiscal years 1977 and 1978, from $1.3 billion to $1.4 billion. Automatic benefit increases and increases in the number of beneficiaries caused this increase.

Veterans' Readjustment Benefits (Subfunction 702)

During the past decade, veterans' benefits have provided more federal assistance to students than any other single program. At its peak in fiscal year 1976, the veterans' benefits program was providing more aid to students than were all the Office of Education student assistance programs combined.

Though the individual benefit package for veterans continues to increase, the number of eligible recipients is declining

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6/ Fifty-six percent of the guaranteed loans outstanding are to students in school, with family incomes under $25,000, and thus require the full subsidy of 7 percent plus the special allowance subsidy to the lending institutions. The remaining loans are in repayment status and require only special allowance subsidies to lenders. The $325 million refers only to the payment of subsidies on loans that are not in default.

7/ This increase is for a full year's subsidy on the additional loans. Loans, however, are dispersed throughout the year, thus some loans would not require payment of the full subsidy, and the resulting fiscal year increase would be less than the estimate provided in the text.

rapidly as Vietnam era veterans pass beyond the period for using their educational entitlements. Newly enacted revisions to veterans' benefits, which assist certain veterans beyond the ten-year period for using benefits and which may accclerate benefits for others, may slow but not halt this funding decline. Between fiscal years 1977 and 1978, expenditures for the veterans' program will fall approximately 11 percent and the number of recipients will decrease by 17 percent. 8/

Tax Expenditures

Another segment of postsecondary funding that is increasing is tax expenditures. The revenue lost through postsecondary tax allowances will increase from $2.1 billion in fiscal year 1977 to $2.2 billion in fiscal year 1978, an increase of 5 percent (see Table 4).

THE DISTRIBUTION OF STUDENT ASSISTANCE BENEFITS

In combination, the many programs that channel assistance to postsecondary students will provide $8.6 billion in benefits in fiscal year 1978 (see Table 5). This represents 87 percent of all federal expenditures for postsecondary education. The largest portion of the benefits in fiscal year 1978 will go to lower-income students, addressing the goal of enhancing equality of educational opportunity. But one-third of the benefits will go to students from families with incomes greater than $15,000, an indication that student assistance programs already are directing some attention toward decreasing the burden of college costs for middle-income families.

Higher Education (Subfunction 502)

Most federal higher education programs focus on meeting "student need," defined as the difference between the amount that the student and his family are expected to contribute to educational expenses and the costs of the education.

8/ The percent decrease in the number of recipients is greater than the percent decrease in expenditures for the veterans' program because of the benefit level increases each year that offset the decline in costs for the program.

TABLE 4. TAX EXPENDITURES FOR POSTSECONDARY EDUCATION, FISCAL YEARS 1977 AND 1978: IN MILLION DOLLARS

Tax Expenditure	1977	1978	Percent Change
Exclusion of Scholarships & Fellowships	245	295	20.4
Parental Personal Exemptions for Students	750	770	2.7
Deductibility of Contributions			
Individual	525	585	11.4
Corporations	235	255	8.5
Exclusion of GI Bill Benefits	260	200	-23.1
Exclusion of Social Security Student Benefits	100	107	7.0
Total	2,115	2,212	4.6

SOURCE: Budget of the United States Government, Fiscal Year 1979, Special Analyses, Table G-1, page 159.

Postsecondary institutions play an important role in determining how federal aid will be apportioned to eligible students. Most federal student assistance programs, excluding Basic Grants, are administered by the institution in which recipients are enrolled or by the lending institutions from which student loans are provided. Students with equivalent levels of financial need might be treated quite differently by different schools or banks. In the Basic Grants program there is more direct federal control; eligibility for a Basic Grant is determined by applying a standard federal needs analysis.

The nature of all of the major federal student aid programs has assured that a large share of these funds go to more needy,

TABLE 5. ESTIMATED DISTRIBUTION OF BENEFITS FOR STUDENT ASSISTANCE, BY INCOME CLASS, FISCAL YEAR 1978: IN MILLIONS OF DOLLARS AND PERCENTS

Expenditure	Income Class 0-15,000	15,000-25,000	25,000+	All Incomes
Higher Education Student Assistance a/				
Dollars	3086	473	78	3,637
Percent	85	13	2	100
Social Security Student Benefits				
Dollars	923	260	263	1,446
Percent	64	18	18	100
Veterans' Readjustment Benefits				
Dollars	1,129	804	161	2,094
Percent	54	38	8	100
Tax Expenditures b/				
Dollars	734	401	237	1,372
Percent	54	29	17	100
Total				
Dollars	5,872	1,938	739	8,549 c/
Percent	69	23	8	100

a/ Includes BEOGs, SEOGs, GSLs, NDSLs, and CWS but does not include SSIGs which would add an additional $64 million.

b/ Includes scholarship/fellowship exclusion, dependency exemption and credit, and veterans' and social security exclusions.

c/ With SSIG benefits would be $8,613 million.

come families, about 63 percent of the federal subsidy accrues students from families with incomes under $15,000.

In fiscal year 1978, $0.5 billion (or 14 percent) of the tal aid from the five major student assistance programs will distributed to students from families with incomes in the 5,000 to $25,000 range. Students from these families are more kely to receive awards through the two loan programs and the llege work-study program than through the federal student grant ograms.

Although student aid programs are not aimed specifically either public or private colleges, each program provides a fferent distribution of aid among types of schools (see Table . In the Basic Grants program, about 68 percent of the $2.1 llion in fiscal year 1978 funding will go to public institu-ns; 25 percent to nonprofit private schools; and 8 percent to lvate proprietary institutions. Average awards to public ool students will be slightly more than $800, or approximately 0 less than their private school counterparts. In the campus-ed programs, about 59 percent of the $1.0 billion in fiscal r 1978 funds will go to public institutions. Private, non-fit schools will receive 37 percent, and the share going to vate, proprietary schools will be about 4 percent.

ial Security (Subfunction 601)

In the 1977-1978 school year, approximately 727,000 post-ondary students will receive $1.4 billion in benefits from social security system. Because these student beneficiaries dependents of retired, disabled, or deceased wage earners, y are often from families with lower incomes. In fiscal year 8, the median adjusted gross income of families with social urity student beneficiaries will be approximately $15,155, ut three-fourths of the median income for all families with ldren in college. Almost two-thirds of the social security dent benefits will go to students from families with incomes w $15,000 per year (see Table 8).

TABLE 6. FAMILY INCOME DISTRIBUTION a/ OF BENEFITS FOR STUDENT ASSISTANCE FUNDING, FISCAL YEAR 1978: IN MILLIONS OF DOLLARS AND PERCENTS

Program	Family Income $0-15,000	$15,000-25,000	$25,000+	All Incomes
Basic Grants				
Dollars	1,947	129	0	2,076 b/
Percent	94	6	0	100
Supplemental Grants				
Dollars	248	22	0	270
Percent	92	8	0	100
Direct Loans				
Dollars	212	98	16	326
Percent	65	30	5	100
College Work-Study				
Dollars	348	78	9	435
Percent	80	18	2	100
Guaranteed Loans				
Dollars	331	172	27	530
Percent	63	32	5	100
Total c/				
Dollars	3,086	499	52	3,637
Percent	85	14	1	100

a/ The distributions used in this table assume that independent students are distributed in proportions equivalent to dependent students. The distributions for Supplemental Grants, Direct Loans, College Work-Study, and Guaranteed Loans are derived from the 1975 Office of Education Fiscal Operations Report, adjusted to 1978 values.

b/ The total cost of the BEOG program would be $2.16 billion. The amount available to students would be $2.076 billion. Administrative costs account for $24 million of the difference and elementary and secondary offsets account for another $60 million.

c/ The SSIG program, which is appropriated $64 million for fiscal year 1978, is not reflected in this table. Including the funding for SSIGs and the additional BEOG costs from footnote b, the total amount available for student assistance through the Office of Education would be $3.8 billion.

gram	Public			Priva	
	Univ.	4-yr.	2-yr.	Univ.	4-y
ic Grants a/					
enefits	37	7	24	9	13
ecipients	35	6	30	7	11
plemental Grants b/					
enefits	38	8	14	14	19
ecipients	36	9	19	11	17
ect Loans b/					
enefits	41	6	6	22	18
ecipients	42	8	9	18	18
kege Work-Study b/					
enefits	40	8	19	13	15
ecipients	38	8	20	12	17
ranteed Loans c/					
enefits	26	19	5	5	25
ecipients	27	12	7	10	22

Z: Rows may not add to 100 percent because of roundin

Percent distribution for academic year 1976-1977, fro
Basic Grants, Office of Education.
Fiscal Operations Division, Office of Education, fisc
Unpublished data, Office of Guaranteed Student Loans,
tion.

4-yr.	2-yr.	prietary
13	3	8
11	2	9
19	2	5
17	3	6
18	2	6
18	2	4
15	3	1
17	3	1
25	2	19
22	2	19

rounding.

77, from Division of

n, fiscal year 1975.
Loans, Office of Educa-

$0 - 4,999	31.5	456
$5,000 - 9,999	16.5	239
$10,000 - 14,999	15.8	228
$15,000 - $19,999	13.9	201
$20,000 - $24,999	4.1	59
$25,000+	18.2	263
Total	100.0	1,446

SOURCE: Social Security Administration; U.S. Bureau of the Census, The Survey of Income and Education (1976).

Veterans' Benefits (Subfunction 702)

The Veterans' Readjustment Program will provide $2.6 billion in financial assistance to 1.2 million veterans attending college in fiscal year 1978. As with social security benefits, but in contrast to other student assistance programs, the veterans' educational benefit program is not "needs based;" that is, two student veterans with the same number of dependents but different incomes or attending differently priced schools receive the same award. Because many veterans are self-supporting students, 50 percent of the participating veterans have family incomes under $15,000 and more than 90 percent are from families earning less than $25,000 (see Table 9).

Income Clas
$0-15,000
$15,000-25,
$25,000+
All Incomes

SOURCE: The
Off
Edu

Tax Expendit

The exi
in educatio
reasons thes
high-income
all current
able--that i
pay. Therei
receive no b
deductions f
expenditures
ments) to hi
rates.

Overall,
benefits for

stribution is derived from a Congressional Budget
estimate, based on 1976 Survey of Income and
ion, adjusted, U.S. Bureau of the Census.

s

ng tax expenditures will provide $2 billion
benefits in fiscal year 1978. For a number of

tion of benefits to higher-income students and families is appreciably greater than that of direct spending programs. About 41 percent of the benefits will go to taxpayers with incomes above $25,000. There is considerable variation in the distribution of benefits among the various tax expenditures. For example, only 10 percent of the implicit tax expenditure for scholarships (which are not taxed) goes to families with incomes above $25,000 while 23 percent of the dependency exemption expenditure goes to families in that income range (see Table 10).

TABLE 10. ESTIMATED DISTRIBUTION OF POSTSECONDARY TAX EXPENDITURES, BY INCOME CLASS, FISCAL YEAR 1978: IN MILLIONS OF DOLLARS AND PERCENTS

Expenditure	Income Class			All Incomes
	$0-15,000	$15,000-25,000	$25,000+	
Exclusion of Scholarships, Fellowships				
Dollars	197	68	30	295
Percent	67	23	10	100
Dependency Exemption				
Dollars	308	285	177	770
Percent	40	37	23	100
Contribution Deduction a/ (Individual)				
Dollars	6	18	561	585
Percent	1	3	96	100
G.I. Benefits Exclusion				
Dollars	158	30	12	200
Percent	79	15	6	100
Soc. Security Benefits Exclusion				
Dollars	71	18	18	107
Percent	66	17	17	100
All Tax Expenditures				
Dollars	740	419	798	1,957
Percent	38	21	41	100

SOURCE: Congressional Budget Office estimate based on Treasury Department data.

a/ Does not include corporate contributions.

These tax provisions have a mixed impact on educational institutions. The current provisions that provide relief for students and their families may improve the competitive position of less expensive public schools because they provide the same constant dollar reduction for all families that have the same marginal tax rate. The dollar reduction represents a larger percent reduction in the cost of a less expensive school and thus might make that school more attractive to the student. On the other hand, private institutions and larger, more prestigious, public schools garner most of the contributions made to colleges and universities; thus, the provision that allows deduction of contributions works clearly to the advantage of these schools and to the families who contribute to them.

THE EFFECT OF EXTENDING CURRENT POLICY TO FISCAL YEAR 1979

A total of $10.2 billion--an additional $0.3 billion over the fiscal year 1978 level--would be required to maintain the existing set of postsecondary education programs at the current policy level of commitment for fiscal year 1979 (see Table 11). 9/ The largest portion of this funding, more than $3.8 billion, would go into the major student assistance programs. Approximately 80 percent of these funds would be channelled to students

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9/ Current policy assumes sufficient funding is provided to maintain programs at their current real dollar value in future years. Current policy assumptions for the Basic Educational Opportunity Grants program maintains funding at the level appropriated in fiscal year 1978; thus the effective maximum award is $1,600, and the amount of assets excluded from consideration in determining family contribution is $17,000. Current policy assumptions for the Guaranteed Student Loan program hold the number of loans for fiscal year 1979 at fiscal year 1978 level. The size of an average loan is projected to increase slightly to compensate partially for projected increases in the costs of attending college. Current policy assumptions for all other postsecondary education programs included within the Higher Education Act (budget subfunction 502) increase spending by 9.1 percent, the CBO estimated increase in the costs of providing higher education services. Social security and veterans' benefits are increased by 6 percent based on the estimate of changes in the Consumer Price Index.

TABLE 11. DISTRIBUTION OF FUNDS AND RECIPIENTS FOR HIGHER EDUCATION, BY BUDGET SUBFUNCTION: BUDGET AUTHORITY IN MILLION DOLLARS, RECIPIENTS IN THOUSANDS, BY FISCAL YEARS

	1978	1979	Percent Change
Subfunction 502 (Higher Education)			
Student Assistance			
Budget authority	$3,785	3,864	2.1
Recipients	6,352	5,789	-8.9
Other Higher Education			
Budget authority	341	372	9.1
Subfunction 601 (Social Security)			
Budget authority	1,446	1,580	9.3
Recipients	727	749	3.0
Subfunction 702 (Veterans' Benefits)			
Budget authority	2,094	2,056	-1.8
Recipients	1,186	1,007	-15.1
Tax Expenditures--Expected Forgone Revenue (millions of dollars)	2,212	2,337	5.7
Total	9,878	10,209	3.4

from families with incomes under $15,000 (see Table 12). Thus, as in previous years, most of these funds would be applied to the goal of enhancing equal educational opportunity. Extending current policy to fiscal year 1979 would include $0.3 billion for institutional aid. Most of this would fund programs designed to aid the educationally disadvantaged.

The current policy costs of the postsecondary components of the social security program ($1.6 billion) and the veterans' readjustment program ($2.1 billion) reflect inflationary increases in benefits and the anticipated increases and decreases in the number of recipients. Tax expenditures would provide a benefit of $2.3 billion.

TABLE 12. INCOME DISTRIBUTION OF STUDENT ASSISTANCE FUNDING UNDER FISCAL YEAR 1979 CURRENT POLICY a/: BENEFITS IN MILLIONS OF DOLLARS, RECIPIENTS IN THOUSANDS

Program	Family Income			All Incomes
	$0-15,000	$15,000-25,000	$25,000+	
Basic Grants				
Recipients	1,898	272	0	2,170
Benefits	1,732	126	0	1,858 b/
Supplemental Grants				
Recipients	388	76	9	473
Benefits	242	49	4	295
Direct Loans				
Recipients	505	272	86	863
Benefits	204	105	46	355
College Work-Study				
Recipients	501	201	61	763
Benefits	324	116	41	481
Guaranteed Loans				
Recipients	515	438	83	1,036
Benefits	264	225	43	532 c/
SSIG				
Recipients	-	-	-	280
Benefits	-	-	-	70
All Programs Without SSIG				
Recipients d/	3,807	1,259	239	5,305
Benefits	2,766	621	134	3,521
All Programs				
Recipients	-	-	-	5,585
Benefits	-	-	-	3,591 e/

a/ Assuming independent students are distributed in proportions equivalent to dependent students.

b/ Total cost of the BEOG program would be $1.912 billion; amount available to students would be $1858. $24 million of total goes to administrative costs and $30 million goes to nonpostsecondary students.

c/ Total cost of the GSL program would be $529 million. Subsidy payments for current loans or loans in repayment would be $338 million; remainder covers default payments.

d/ Duplicated count of recipients who receive more than one type of federal assistance.

e/ With added costs reflected in footnotes b & c, total cost would be $3.9 billion.

CHAPTER III. MAJOR LEGISLATIVE PROPOSALS FOR FISCAL YEAR 1979

Five major proposals that would increase significantly federal student assistance have been proposed by the Congress and the Administration. While these proposals all have basically the same purpose--increasing student assistance to middle-income families--they differ in the strategies they embody for achieving this goal. The two different mechanisms for providing federal assistance are:

- o Providing Assistance Through Existing Student Assistance Programs. The Administration, the Senate Human Resources Committee, and the House Education and Labor Committee all have presented proposals that would utilize existing student assistance programs, primarily Basic Grants and Guaranteed Loans, to provide aid to middle-income families.

- o Providing Assistance Through Tuition Tax Credits. The Senate Finance and House Ways and Means Committees have proposed assisting middle-income families by allowing those with students to claim a tax credit for tuition expenses.

In this chapter each of these five proposals is discussed. The major components of each are presented, and the probable impact on the budgetary costs and distribution of benefits are analyzed. The proposals are compared with respect to how they address the federal goals of achieving equality of educational opportunity, reducing the burden of college costs, and assuring a strong and diverse educational system.

PROPOSALS PROVIDING ASSISTANCE THROUGH DIRECT SPENDING PROGRAMS

The Basic Grants program is the primary focus of all three of the proposals for providing assistance through direct spending programs. Each of the three proposals relies on a unique set of changes to provide greater assistance to students from middle-income families. There are two changes, however, that all three

proposals share in common. Each would fund the Basic Grants program at its fully authorized level, thus increasing the maximum award from $1,600 to $1,800, and each would increase from $17,000 to $25,000 the amount of assets excluded from consideration in determining the family's contribution to the student's education. These two changes would cost $314 million more than extending current policy to fiscal year 1979 and would provide 40,000 more awards. The full-funding option of a maximum grant of $1,800 and an asset exclusion of $25,000 is used as the base in comparing the various Basic Grants proposals.

The Administration's Proposal

The Administration's proposal would increase the funding for Basic Grants and College Work-Study, plus raise the eligibility limit on Guaranteed Student Loans from $25,000 to $40,000 adjusted family income. 1/. The major component of the President's proposal is a modification of the Basic Grants program that would:

- Increase the family living allowance considered nondiscretionary income by $750 for each family.
- Change the treatment of self-supporting students by increasing from $1,100 to $3,400 the income recognized as needed to sustain a single student and by reducing the assessment on assets of self-supporting students with families from 33 percent to 5 percent in line with assessment rates for other families.
- Provide a guaranteed award of $250 to full-time dependent students or independent students with dependents from families with incomes below $25,000.

With these changes, the cost of the Basic Grants program for fiscal year 1979 would be $3.1 billion, an increase of $1.0 billion over the fully funded current program for fiscal year

1/ Adjusted family income represents the families' taxable income. $40,000 in adjusted family income is equivalent to an average gross income of $47,000.

1979. 2/ The revised program would reach 4.7 million students, an increase of 2.5 million, or more than 100 percent, over a fully funded current program. Roughly 2.3 million students would receive the $250 guaranteed grant.

Congressional Proposals

Senate. The Senate Human Resources Committee has approved a bill (S. 2539) that expands the Basic Grants program, extends eligibility for Guaranteed Loans to all students, and increases the authorization for Supplemental Grants and College Work-Study. As with the Administration proposal, the most significant changes are proposed for the Basic Grants program. In addition to fully funding the program at its authorized level ($1800 maximum grant) and increasing the asset exclusion to $25,000, the Senate proposal decreases the assessment rate on disposable income. Currently, families are expected to contribute toward a student's education 20 percent of the first $5,000 of disposable income (that amount above the basic family living allowance) and 30 percent of the remaining disposable income. The Senate proposal lowers this expected contribution to 10.5 percent for all disposable income. These alterations would result in a Basic Grants program costing $3.3 billion in fiscal year 1979, an increase of $1.2 billion over full funding for 1979. It would reach 3.7 million students, an increase of 1.5 million, or 66 percent.

House. The House Education and Labor Committee has reported the "Middle Income Student Assistance Act of 1978" (H.R. 11274). The proposed changes to the Basic Grants program in this bill are the same as those presented in the Senate (fully funding to $1800 award level, increasing the asset exclusion to $25,000, and reducing the assessment rate on discretionary income to 10.5 percent), 3/ except that the House bill includes the Administration's two provisions for self-supporting students. These

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2/ For the Basic Grants program, projected incomes and educational costs are altered to reflect estimated inflationary effects.

3/ The House proposal also includes a provision for funding Basic Grants if the program is not funded at the fully authorized level. In such a case, the assessment rate would be adjusted upward from 10.5 percent to 12 percent.

percent. These two provisions add an additional cost of $131 million to the bill and increase the number of recipients by 46,000. The overall cost of the Basic Grants program with these changes would be $3.4 billion, an increase of $1.3 billion above full funding of the current programs. It would reach more than 3.7 million students.

The House version proposes slightly different alterations to the Supplemental Grants and Work-Study programs, and includes a proposed small increase in funding for the State Student Incentive Grants program. The House also would extend eligibility for Guaranteed Student Loans to all students.

PROPOSALS PROVIDING ASSISTANCE THROUGH TUITION TAX CREDIT

Both the Senate and the House have before them bills that would provide tuition tax credits to assist middle-income families.

Senate. The Senate Finance Committee has reported "the Tuition Tax Relief Act of 1978," an amendment to H.R. 3946. 4/ This bill would gradually introduce tuition tax credits over the span of five years. Beginning August 1, 1978, individuals could claim a credit equal to 50 percent of tuition and fees, with a maximum credit of $250 per student for expenses incurred in full-time undergraduate colleges or vocational schools. On August 1, 1980, the credit would be increased to a maximum of $500, and elementary and secondary school students would become eligible. On August 1, 1981, graduate students and part-time students would become eligible. The revenue loss associated with this bill increases appreciably as the size of the allowable credit is increased and the eligible population is expanded.

House. The House Ways and Means Committee has reported H.R. 12050, which would introduce a tuition tax credit gradually over a three-year span. This bill differs from the Senate Finance Committee tuition tax credit proposal in a number of

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4/ H.R. 3946 is an act to suspend the tariff duty on certain grades of wool.

ways. First, the Ways and Means bill is nonrefundable; that is, the taxpayer can receive a credit only up to the limit of his tax liability. Second, the bill applies only to undergraduate students who attend school more than half-time, and is limited to 25 percent of tuition and fees. And finally, the maximum credit allowed in H.R. 12050 would be much lower than the levels proposed in the Senate: $100 for calendar year 1978, $150 for 1979, and $250 for 1980, after which the program would be terminated unless renewed.

THE IMPACT OF CURRENT PROPOSALS

Impact of Proposed Changes to the Basic Grants Program

Each Basic Grants plan has a somewhat different impact. As Table 13 shows, the Administration's proposal would provide the greatest number of grants, but the average grant would be much smaller because most of the students would receive only the $250 minimum grant. The Senate and House bills, on the other hand, would provide fewer grants but those available would be much larger. Under these proposals, the average grant for a recipient in the $20,000 to $25,000 income class would be approximately $575. Unlike the President's proposal, however, less than fifty percent of the students from families in this income range would qualify for grants. The House bill provides larger average grants to lower-income families because most independent students fall in these lower-income categories, and H.R. 11274 includes the two provisions to assist independent students. For example, students in the lowest income group, $0 to $5,000, would benefit most from the House proposal which would increase each grant $188 on average, to $1,257.

Clearly, these proposals would increase the emphasis of federal aid on the goal of reducing the burden of college costs for middle-income families. None of the proposals, however, would reduce the commitment to ensuring equality of opportunity. The Administration and House Basic Grants proposals, in fact, would increase the funding related to achieving equality of opportunity by channeling more benefits to one specific subgroup--independent students, many of whom have lower incomes. None of the Basic Grant components address directly the goal of assuring a strong system of higher education, but they would no doubt have some effect on this goal, too. Middle-income students

TABLE 13. DISTRI
CURRENT
OPPORTU
YEAR 1
MILLION

Income Class	
$0-5,000	
	Recipients
	Benefits
	Avg. Award
$5-10,000	
	Recipients
	Benefits
	Avg. Award
$0-15,000	
	Recipients
	Benefits
	Avg. Award
$15-20,000	
	Recipients
	Benefits
	Avg. Award
$20-25,000	
	Recipients
	Benefits
	Avg. Award
$25,000+	
	Recipients
	Benefits
	Avg. Award
Subtotal	
	Recipients
	Benefits
	Avg. Award
Administrative Offsets (millions of dollars)	
Total Costs (millions of dollars)	

	Full Funded	Proposal	Proposal	Proposal
5,000				
Recipients	437	452	441	447
Benefits	467	562	469	562
Avg. Award	1,069	1,243	1,063	1,257
10,000				
Recipients	777	959	775	804
Benefits	855	976	881	910
Avg. Award	1,100	1,018	1,137	1,132
15,000				
Recipients	691	1,220	822	834
Benefits	565	787	823	833
Avg. Award	818	645	1,001	999
20,000				
Recipients	269	957	676	677
Benefits	154	385	547	545
Avg. Award	572	402	809	805
25,000				
Recipients	35	1,135	646	644
Benefits	13	291	370	371
Avg. Award	371	256	573	576
000+				
Recipients	0	0	312	312
Benefits	0	0	125	125
Avg. Award	0	0	401	401
Total				
Recipients	2,209	4,723	3,672	3,718
Benefits	2,054	3,001	3,215	3,346
Avg. Award	930	635	876	900
Administrative Costs (millions of dollars)	54	81	71	71
Total Costs (millions of dollars)	2,108	3,082	3,286	3,417

family incomes up to $40,000. The Administration also proposes raising the special allowance subsidy paid to banks by one-half percent. The Administration projects that these changes would increase dramatically the size of the Guaranteed Student Loan Program--that not only would student loan portfolios increase sufficiently to absorb the newly eligible borrowers, but that the overall participation rate would rise from 11 percent to 13 percent of those eligible.

There is no adequate way to verify the Administration's assumptions; they are only one of several possible responses by banks to the proposed changes. The Administration's assumptions and two other possible response patterns are examined here.

Lenders Increase Significantly Loan Availability. If the lending institutions respond as expected by the Administration, there would be 1.6 million loans dispensed in fiscal year 1979, an increase of 400,000 over fiscal year 1978 (see Table 14). This increase includes about 200,000 newly eligible students from higher-income families and an increase in the participation rate of eligible students from 11 percent to 13 percent. Assuming the average size loan is $1,600, the total disbursement for loans in fiscal year 1979 would be $2.5 billion. The federal interest subsidy for this loan volume, including the proposed increase, would be $255 million.

tain current level of funding student loans; portfolios
ased.

685	572
44.1	46.8
582	486
37.5	39.8
286	164
18.4	13.4
1,[illegible]	1,222

572	538
46.8	46.8
486	458
39.8	39.8
164	154
13.4	13.4
1,222	1,150

ates based on Office of Edu

mately 83,000 of these students wo
loans.

The Senate bill removes the elig
no new incentives for lenders to in

t previous participation rates, approxi-
students would apply for and receive

ves the eligibility ceiling but includes
enders to increase loan volume. Under

Table 15 shows the revenue loss and distribution of benefits for fiscal year 1980 that are associated with the tuition tax credits currently proposed in the Senate and in the House. 6/

Senate. In the Senate, there is a discrepency between the language of the Senate Finance Committee bill itself and the language of the accompanying report with respect to the way in which other forms of student financial assistance (grants and scholarships) should be considered in determining how much tuition a family has to pay in a year. The bill (reflected in column A of Table 15) states that any student asistance not included in gross income must be used to reduce eligible educational expenses (tuitions and fees) prior to determining eligibility for the tax credit. The report (reflected in column B of Table 15) indicates that scholarships and grants should be designated for all educational expenses. Thus eligibility for the credit is reduced only by the the proportion of student aid applied toward tuition and fees. Analyses of the costs and distribution of benefits are provided for both interpretations of the Senate bill in Table 15.

The difference in total benefits and in the distribution of these benefits is quite substantial for these two interpretations. Allowing grants and scholarships to be applied to all educational expenses increases the benefit provided by 55 percent. Requiring student assistance to be applied only against tuition would provide 14 percent of the benefits to families with incomes under $15,000. Approximately 31 percent would accrue to families with incomes between $15,000 and $25,000, and 55 percent of the benefits would go to families with incomes above $25,000. This is in sharp contrast to assuming that student assistance is applied to all educational expenses. Under this interpretation, 32 percent of the benefits would accrue to families earning less than $15,000, 29 percent would go to those with incomes between $15,000 and $25,000, and 39 percent would go to families with incomes greater than $25,000.

6/ The Senate tuition tax credit proposal includes elementary, secondary and postsecondary education. The analysis provided in this paper, however, examines the costs and distributional effects associated only with the postsecondary education portion of the tax credit. Appendix A includes the costs and distribution of benefits for refundable and nonrefundable portions of the bill. Separate tables are provided for the total bill and for the postsecondary portion only.

TABLE 15. POSTSECONDARY TUITION TAX CREDIT PROPOSALS--DISTRIBUTION OF BENEFITS TO FAMILIES IN VARIOUS INCOME CLASSES FOR H.R. 3946, PROPOSED BY THE SENATE FINANCE COMMITTEE (LANGUAGE OF BOTH THE BILL AND THE REPORT) AND H.R. 12050, PROPOSED BY THE HOUSE WAYS AND MEANS COMMITTEE, FISCAL YEAR 1980 a/: NUMBER OF FAMILIES IN THOUSANDS, BENEFITS IN MILLIONS OF DOLLARS, AVERAGE FAMILY AWARDS IN DOLLARS

Income Class	A Senate Bill	B Senate Report	C House Bill
$0-5,000			
Families	174	762	147
Benefits	29	122	8
Avg. Award	167	160	54
$5-10,000			
Families	130	528	605
Benefits	22	89	41
Avg. Award	169	169	68
$10-15,000			
Families	224	660	898
Benefits	50	144	79
Avg. Award	223	218	88
$15-20,000			
Families	388	678	968
Benefits	79	156	99
Avg. Award	204	230	102
$20-25,000			
Families	571	631	892
Benefits	143	167	101
Avg. Award	250	265	113
$25,000+			
Families	1,530	1,599	2,195
Benefits	394	433	284
Avg. Award	258	271	129
Total			
Families	3,017	4,858	5,705
Benefits	717	1,111	612
Avg. Award	238	229	107

a/ Fiscal year 1980 is used rather than fiscal year 1979 for two reasons. First, tax credits claimed in fiscal year 1980 most closely approximate benefits received in academic year 1979-1980; and second, 1980 is the first fiscal year which reflects a full calendar year of eligibility for the tax credit.

House. The House Ways and Means proposal (H.R. 12050) would allow scholarships and grants to be designated for all educational expenses, similar to the language of the Senate Finance Committee report. The House bill would distribute 21 percent of the benefits to families with incomes under $15,000, 33 percent to middle-income families with incomes between $15,000 and $25,000, and 46 percent to families with incomes greater than $25,000.

In both the Senate and the House proposals, the average family tax credit would be greater for higher-income families than for lower-income families. This occurs because students from higher-income families are more likely to attend higher-cost institutions, are less likely to receive other forms of student assistance that would be discounted from the tax credit, and are more likely to have more than one student in college at the same time. In 1975, over 20 percent of the higher-income families (over $25,000) with children in college had two or more in school at the same time, while only 3 percent of the lower-income families (under $6,000) with children in college had two or more students attending at the same time. 7/

Average family tax credit figures, however, may be misleading. In most cases the family unit is the nuclear family in which the student is the dependent member. Independent students, however, are reflected as families in these figures. Most independent students have incomes under $15,000; thus, many of the family units in the lower-income categories actually include independent students. 8/

7/ U.S. Bureau of the Census, 1975 Survey of Income and Education.

8/ It is difficult to estimate how many independent students attend college or what the demographic characteristics of independent students are because there is not uniform agreement on who constitutes an independent student. For tax purposes, a student would be independent if he claimed himself as an exemption. But the Basic Grants program has more rigorous standards, requiring that a student be financially independent for at least one full year before being classified as independent. In addition to this definitional problem, it is difficult to determine much about independent students. Some data are available, however, (continued)

One significant difference between the bills is that the Senate bill would provide for a refundable credit, whereas the House version is nonrefundable. The Senate bill would assure a family the total amount of credit for which it qualifies--if the family's total taxes were less than the credit, the family would receive a refund from the government. The House version, on the other hand, would allow a credit only up to the level of a family's total tax liability. For this reason, the Ways and Means bill would provide very little benefit to families with incomes under $10,000 because their tax liabilities are typically quite low.

In general, tax credits provide some benefit to individuals in all income ranges, but they tend to provide a greater amount of benefits to higher-income families. Because of the distributional impact, a tuition tax credit, like all existing tax expenditures related to education, would address most directly the federal goal of reducing the burden of college costs.

A COMPARISON OF THE PROPOSED BASIC GRANT PROGRAM CHANGES AND THE TUITION TAX CREDIT PROPOSALS

Students from families with incomes between $15,000 and $25,000 would receive appreciably more benefits from any of the direct assistance proposals than from the proposed tax credits. Obviously, higher-income families benefit most directly from a tuition tax credit.

Lower-income families would benefit most from either the Administration Basic Grants plan or the House Basic Grants plan. Much of this benefit, however, would be directed to independent students and not to students who are dependent members of a family unit. Lower-income families also would

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from the Basic Grants program. In 1977, 1.3 million independent students applied for assistance, an increase of 8 percent over 1976. The majority of these students, were atypical undergraduates in that they were older than a normally progressing undergraduate. A large proportion, 61 percent, were either married or single parents. Only 17 percent were typical single undergraduates under the age of 23.

benefit quite substantially from a tax credit if the credit were refundable and did not require that all other forms of financial aid be deducted solely from tuition in determining eligibility for the tax credit. The Senate Human Resources Committee Basic Grants--proposal would provide less benefit to low-income families, primarily because it does not include the special provisions for increasing benefits for independent students, most of whom have low incomes.

In sum, all of the proposals would shift the emphasis of federal funding toward achieving the goal of reducing the burden of college costs for middle-income families and students. None of the proposals, however, would reduce the level of commitment to the goal of achieving equality of educational opportunity. In fact, most of the proposals would include at least a modest increase in benefits for lower-income families. The direct spending proposals would focus the new emphasis on middle-income families. Tax credits would help middle-income families somewhat, but would also channel considerable assistance to higher-income families.

TABLE 16. DISTRIBUTION OF INCREMENTAL INCREASES OVER CURRENT LAW OF MAJOR STUDENT ASSISTANCE PROPOSALS BY INCOME CLASS: BENEFITS IN MILLIONS OF DOLLARS, FISCAL YEAR 1979 FOR DIRECT SPENDING PROGRAMS AND FISCAL YEAR 1980 FOR TAX EXPENDITURE PROGRAMS

Income Class	Admin. BEOG Proposal	Senate BEOG Proposal	House BEOG Proposal	Senate Finance Bill	Senate Finance Report	House Ways and Means Bill
$0-15,000						
Benefits	438	286	418	101	355	128
Percent	46	25	32	14	32	21
$15-25,000						
Benefits	509	750	749	222	323	200
Percent	54	64	58	31	29	33
$25,000+						
Benefits	0	125	125	394	433	284
Percent	0	11	10	55	39	46
Total						
Benefits	947	1,161	1,292	717	1,111	612
Percent	100	100	100	100	100	100

CHAPTER IV. OTHER BUDGET OPTIONS FOR FISCAL YEAR 1979

The Congress can choose between making major changes or incremental alterations in federal funding patterns for postsecondary education. The major changes, discussed in Chapter III, would redirect the emphasis of federal programs to reducing the burden of postsecondary education for middle-income families. This chapter examines several other budget options to illustrate the impact that relatively small but targeted incremental changes could have on achieving specific objectives. The options analyzed include:

- o options that alter funding for direct higher education student assistance programs, and
- o options that change funding for institutional aid.

OPTIONS THAT ALTER FUNDING FOR DIRECT HIGHER EDUCATION STUDENT ASSISTANCE

Changing the Basic Grants Program

The primary role of the Basic Grants program has been to enhance equality of educational opportunity by providing the necessary financial resources for the most needy students to obtain postsecondary education. Reducing the burden of college costs, however, always has been a secondary goal of the Basic Grants program. Various incremental changes to the Basic Grants program would have different effects on who benefits and by how much.

If the Congress wished to continue to focus on the goal of enhancing equality of educational opportunity, one effective change would be to increase the amount of money considered necessary to sustain a family (and thus exempted from consideration in determining the family contribution to college expenses). One approach of this type, which has received attention in the past, would be to use the Bureau of Labor Statistics (BLS) lower-living standard budget rather than the so-called Orshansky poverty guideline that is used currently. Shifting to the BLS

index would increase the number of recipients of Basic Grants by 19 percent (see Table 17). Students from families with incomes under $15,000 would receive 29 percent more benefits. The average award in this income group would rise by $140, or 14 percent.

As with most incremental options, however, changing the family living allowance affects more than just the population to which aid is being targeted. In this case, increased benefits would also be provided to students from middle-income families. Benefits would increase more than 2.5 times current levels for students from families with incomes over $15,000, and average awards for this group would increase 17 percent. Thus, incrementally increasing the level of income considered necessary to sustain a family (nondiscretionary income) would not only reinforce the federal commitment to equality of educational opportunity, but also would help reduce the burden of college costs for middle-income families. As might be expected, though, this single incremental change drives up appreciably the costs of the Basic Grants program. It alone would add an additional $809 million to the program in fiscal year 1979, an increase of approximately 40 percent.

On the other hand, if the Congress desired to focus more directly on reducing the burden for middle-income students without providing additional assistance to students from lower-income families, there are a number of incremental changes to the Basic Grants program that could be made. One particularly effective alteration for focusing new aid solely on middle-income students involves reducing the assessment rate on income above the family living allowance. At present, 20 percent of the first $5,000 of discretionary income and 30 percent of any amount over $5,000 is added to the expected family contribution to a student's college costs. Reducing this rate to a 15 percent assessment of all discretionary income would increase the number of beneficiaries by 33 percent. Virtually all of the increases in awards would go to students from families with incomes greater than $10,000, and the increased benefit actually would grow as incomes go up; thus, students from families with incomes between $20,000 and $30,000 would benefit much more from this change than they would from most other incremental changes. This alteration would increase the costs of the program $528 million in fiscal year 1979.

TABLE 17. DISTRIBUTION OF RECIPIENTS AND BENEFITS RESULTING FROM INCREMENTAL BASIC GRANTS ALTERATIONS, BY INCOME CLASS, FISCAL YEAR 1979: RECIPIENTS IN THOUSANDS, BENEFITS IN MILLIONS OF DOLLARS

Income Class	$1,800 Maximum Award, $25,000 Asset Exclusion a/	Using BLS Lower-Living Index	Using 15% Assessment of Discretionary Income
$0-5,000			
Recipients	437	446	438
Benefits	467	561	467
$5-10,000			
Recipients	777	818	779
Benefits	855	976	873
$10-15,000			
Recipients	691	884	800
Benefits	565	888	718
$15-20,000			
Recipients	269	537	559
Benefits	154	378	361
$20-25,000			
Recipients	35	148	321
Benefits	13	60	147
$25-30,000			
Recipients	0	0	44
Benefits	0	0	15
Total			
Recipients	2,209	2,842	2,941
Benefits	2,054	2,863	2,582

a/ This Base Plan assumes the program is funded at the full authorization level with a maximum award of $1,800 and an increase in the asset exclusion from $17,000 to $25,000. These are the only two differences between this Base Plan and current policy. It assumes the Orshansky poverty index and a current assessment of 20 percent on the first $5,000 of discretionary income and 30 percent on all discretionary income above $5,000.

Changes in Funding of Other Student Assistance Programs

Support of other student assistance programs could be changed incrementally to alter the emphasis of federal programs on achieving the current mix of goals. The two student loan programs--guaranteed loans (discussed in Chapter III) and direct loans--are an important source of student assistance funding that recently have received considerable attention. In addition, changes have been proposed to the State Student Incentive Grant program.

- National Direct Student Loan Program (NDSL). The Ford Administration requested no funds for this program in the fiscal year 1977 budget; funding, however, was restored by the Congress. President Carter has requested no increase in funding for this program for fiscal year 1979. The major argument against this program is that it is an expensive duplication of an effort better accomplished by the GSL program, and it has been suggested that the programs be merged. Proponents of the NDSL program, however, point out that it provides assurance of a loan program for the most needy students--an assurance that cannot be incorporated into the present GSL program that relies on the good faith and willingness of banks and other lending institutions to provide loans to low-income, high-risk student borrowers.

Despite the fact that NDSLs are based on need, they have not been particularly effective in providing assistance to the most needy students. In fiscal year 1978, it is anticipated that 65 percent of the NDSL recipients will come from families with incomes under $15,000. This is only marginally higher than the 63 percent provided in the GSL program to students in this low-income category. So it appears that, though the NDSL program was designed primarily to enhance equality of opportunity, it is not much more effective in channelling aid to the most needy than the GSL program, which was designed primarily to help middle-income families.

If federal funding for the National Direct Student Loan program were diminished, it is unclear how severe the overall effect would be. Any reduction in the number of loans would be concentrated among students from lower-income families, since they comprise 65 percent of the recipients of direct loans. But participation in the program might not be curtailed sharply by a reduction in federal funding. Direct loans are made from revolving loan funds maintained by colleges and universities.

Currently, of the more than 3,400 revolving funds at educational institutions, over 700 are totally self-sustaining, requiring no continued federal capital contribution. Thus, a reduction in federal funding would not alter the lending patterns of the 700 self-sustaining funds at all. Many of the other 2,700 institutions have sizable revolving funds so any reduction in federal capital contributions would not significantly alter the availability of direct loans at these institions either.

State Student Incentive Grants (SSIG). These grants offer a mechanism through which the federal government could provide incentives to states that would increase the amount of available student aid for relatively little additional federal investment. As with the GSL program, the SSIG program is dependent upon cooperation from other entities--in this case the states--so simply increasing the level of federal funding would not ensure program expansion.

OPTIONS THAT ALTER INSTITUTIONAL AID PROGRAMS

Incremental changes could also be made that would address directly the federal goal of assuring a strong system of higher education. Approximately 10 percent of the funding for post-secondary education is designed to help educational institutions. Among the programs of this type are those authorized by Title VII of the Higher Education Act of 1965, which, as amended in 1976, authorizes the appropriation of "such sums as may be necessary" to help institutions with the costs of campus renovation and reconstruction undertaken (1) to conserve energy, (2) to meet environmental protection standards and health and safety requirements, or (3) to remove architectural barriers to the handicapped. Under this Title, $4 million was appropriated for institutional loans in fiscal year 1978. But there is mounting pressure from colleges and universities to increase this funding because unanticipated increases in energy costs are forcing institutions to renovate their facilities on a faster timetable than originally planned, and because institutions are expending considerable amounts of money to accommodate handicapped persons.

Compared to the $4 million that has been appropriated for construction loans, the American Council on Education (ACE) projects that approximately $10 billion is needed for the types of construction and renovation covered by Title VII. The ACE further suggests that $380 million be authorized in grants and

The President originally requested $50 million in loan funds for fiscal year 1979 to begin a federal effort in this area. Subsequently this request was changed to $50 million in grants. This change was made because the Administration believes that sufficient incentives are not available to entice institutions to borrow money to retrofit buildings to accommodate the handicapped.

Either loans or grants would cost the federal government about the same in the short run, though a loan program costs less over time because loans are repaid. In addition, it is not clear that insufficient incentives are available to make loans attractive. The retrofitting of physical facilities to accommodate the handicapped is mandated by law and must be undertaken if institutions are to retain federal funding. It seems as though this mandate does provide the incentive for institutions to pursue such projects, and low-interest loans would provide substantive relief.

Another form of institutional aid is delivered through the Special Programs for the Disadvantaged. These programs have been appropriated $115 million in fiscal year 1978. A recent evaluation of one of these programs, Upward Bound, with an annual appropriation of $4 million, shows that it has been effective in preparing and encouraging students from disadvantaged backgrounds to enter and remain in college. 2/ Thus, incremental changes in these programs may represent an effective approach to enhancing equality of educational opportunity.

Also, $120 million has been appropriated for developing institutions in fiscal year 1978. These funds traditionally have been channelled to a select group of institutions, many of which serve predominantly disadvantaged minority students and

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1/ Higher Education Expenditure Targets for FY79, a memorandum from the American Council on Education to staff members of House and Senate Budget Committees and Congressional Budget Office.

2/ U.S. Department of Health, Education, and Welfare, Office of Education, Office of Planning, Budgeting, and Evaluation, Evaluation of the Upward Bound Program: A First Follow-Up, 1977.

assessment of what segments of the population are being assisted. The long-range impact could be to dilute the focus for assisting these unique types of institutions.

The array of alternative budget options presented in this chapter illustrates the extent to which incremental changes can be used to effect change. Obviously, major program alterations, such as those discussed in Chapter III, are most appropriate for redirecting the major emphasis of federal programs. Incremental changes are effective for channelling funds to specific areas or in making marginal changes in the emphasis on various goals.

APPENDIXES

The estimates in this appendix are based on H.R. 3946, which provides for a refundable tuition tax credit that would provide up to 50 percent of tuition paid by a family in any year up to the following maximum credits:

- From August, 1978 to July 31, 1980: $250 to full-time undergraduate collegiate and postsecondary vocational education tuition expenses and fees.
- From August, 1980 through July, 1981: $500 to full-time undergraduate collegiate and postsecondary vocational education tuition expenses and fees, and to elementary and secondary tuition expenses and fees.
- From August, 1981: $500 to all elementary, secondary, and postsecondary students for tuition expenses and fees.

As reported from the Senate Finance Committee, there is a discrepency between the language of the bill and the language of the accompanying report on how other forms of student financial assistance (grants and scholarships) should be considered in determining how much tuition a family has to pay in any year. Two complete sets of data are provided to reflect the costs and distributions associated with each interpretation. Tables A-1 and A-2 reflect the language of the bill, which states that all other forms of financial assistance must be deducted directly from qualifying expenses (tuition and fees). Tables A-3 and A-4 are based on the language of the report, which states that all other forms of financial assistance can be distributed at the discretion of donor to all educational expenses. To approximate the effect of this provision, other forms of student assistance have been distributed to all educational expenses, based on the proportion that each type of expense represents of the total student budget. The estimates have been adjusted to account for the flow of students into and out of school.

TABLE A-1. TOTAL COSTS OF H.R. 3946, BY REFUNDED AND NONREFUNDED COMPONENTS IN MILLIONS OF DOLLARS, AND PERCENT DISTRIBUTION OF BENEFITS BY INCOME CLASS, ASSUMING THAT ALL STUDENT AID GRANTS MUST BE USED TO REDUCE ELIGIBLE EXPENSES (TUITION AND FEES) PRIOR TO DETERMINING ELIGIBILITY FOR THE TAX CREDIT

Fiscal Year	Total Cost	Refunded Component	Nonrefunded Component
1978	19	--	19
1979	505	76	429
1980	837	114	723
1981	2,283	255	2,028
1982	4,019	476	3,543
1983	4,790	552	4,238

Income Class	Percent of Total Benefits for Tuition Expenses in Calendar Years					
Family Income	1978	1979	1980	1981	1982	1983
$0-5,000	4	4	3	5	5	5
$5-10,000	3	3	3	4	5	5
$10-15,000	7	7	8	9	9	9
$15-20,000	11	11	14	15	14	14
$20-25,000	19	20	19	18	18	18
$25-30,000	16	17	16	15	15	17
$30-40,000	20	20	19	17	17	17
$40-50,000	9	8	8	8	8	8
$50,000+	11	11	10	9	9	9

TABLE A-2. COSTS OF THE POSTSECONDARY COMPONENT OF H.R. 3946, BY REFUNDED AND NONREFUNDED COMPONENTS (IN MILLIONS OF DOLLARS), AND PERCENT DISTRIBUTION OF BENEFITS BY INCOME CLASS, ASSUMING THAT ALL STUDENT AID GRANTS MUST BE USED TO REDUCE ELIGIBLE EXPENSES (TUITION AND FEES) PRIOR TO DETERMINING ELIGIBILITY FOR THE TAX CREDIT

Fiscal Year	Total Cost	Refunded Component	Nonrefunded Component
1978	19	--	19
1979	505	76	429
1980	717	114	603
1981	1,301	202	1,099
1982	2,226	352	1,874
1983	2,914	442	2,472

	Percent of Total Benefits for Tuition Expenses in Calendar Years					
Income Class	1978	1979	1980	1981	1982	1983
$0-5,000	4	4	4	7	7	7
$5-10,000	3	3	3	5	5	5
$10-15,000	7	7	7	8	9	9
$15-20,000	11	11	10	11	12	12
$20-25,000	19	20	19	18	18	17
$25-30,000	16	17	16	15	14	14
$30-40,000	20	20	20	18	17	18
$40-50,000	9	8	9	8	8	8
$50,000+	11	10	12	10	10	10

TABLE A-3. TOTAL COSTS OF H.R. 3946, BY REFUNDED AND NONREFUNDED COMPONENTS (IN MILLIONS OF DOLLARS), AND PERCENT DISTRIBUTION OF BENEFITS BY INCOME CLASS, ASSUMING THAT OTHER FORMS OF STUDENT AID (GRANTS AND SCHOLARSHIPS) CAN BE APPLIED TO ALL EDUCATIONAL EXPENSES, THUS REDUCING ELIGIBILITY FOR THE CREDIT ONLY BY THE PROPORTION OF STUDENT AID APPLIED TOWARD QUALIFYING EXPENSES

Fiscal Year	Total Cost	Refunded Component	Nonrefunded Component
1978	25	--	25
1979	751	153	598
1980	1,231	241	990
1981	2,883	452	2,431
1982	4,789	727	4,062
1983	5,751	853	4,898

	Percent of Total Benefits for Tuition Expenses in Calendar Years					
Income Class	1978	1979	1980	1981	1982	1983
$0-5,000	11	11	7	8	8	8
$5-10,000	8	8	6	7	7	7
$10-15,000	12	13	11	11	11	11
$15-20,000	14	14	15	15	16	15
$20-25,000	14	15	16	16	16	16
$25-30,000	12	12	13	13	13	13
$30-40,000	15	14	16	15	15	15
$40-50,000	6	6	7	7	7	7
$50,000+	8	7	9	8	8	8

TABLE A-4. COSTS OF THE POSTSECONDARY COMPONENT OF H.R. 3946, BY REFUNDED AND NONREFUNDED COMPONENTS (IN MILLIONS OF DOLLARS), AND PERCENT DISTRIBUTION OF BENEFITS BY INCOME CLASS, ASSUMING THAT OTHER FORMS OF STUDENT AID (GRANTS AND SCHOLARSHIPS) CAN BE APPLIED TO ALL EDUCATIONAL EXPENSES, THUS REDUCING ELIGIBILITY FOR THE CREDIT ONLY BY THE PROPORTION OF STUDENT AID APPLIED TOWARD QUALIFYING EXPENSES

Fiscal Year	Total Cost	Refunded Component	Nonrefunded Component
1978	25	—	25
1979	751	153	598
1980	1,111	241	870
1981	1,900	398	1,502
1982	2,998	602	2,396
1983	3,886	749	3,137

	Percent of Total Benefits for Tuition Expenses in Calendar Years					
Income Class	1978	1979	1980	1981	1982	1983
$0-5,000	11	11	10	11	11	11
$5-10,000	8	8	8	8	8	8
$10-15,000	12	13	12	12	12	12
$15-20,000	14	14	13	14	14	14
$20-25,000	14	15	14	14	14	14
$25-30,000	12	12	12	12	12	12
$30-40,000	15	14	15	15	15	15
$40-50,000	6	6	7	6	6	6
$50,000+	8	7	9	8	8	8

APPENDIX B. THE COSTS AND DISTRIBUTIONAL IMPACT OF H.R. 12050, A TUITION TAX CREDIT, REPORTED BY THE HOUSE WAYS AND MEANS COMMITTEE

The estimates in this appendix are based on H.R. 12050, which provides for a nonrefundable tuition tax credit that would cover up to 25 percent of tuition paid by a family in any year for undergraduate students or postsecondary vocational education students. The credit could be claimed only for students enrolled full-time during at least four months of a qualifying calendar year or enrolled part-time, but at least half-time, during at least eight months of a calendar year. The credit would apply to tuition and course fees in calendar years 1978 through 1980, but not thereafter, with the following maximum credit levels: $100 for calendar year 1978, $150 for calendar year 1979, and $250 for calendar year 1980.

Under this bill, other student grants and scholarships would be distributed to all educational costs in determining how much tuition a family has paid in the year. To approximate this provision, the CBO estimate assumes that all grants and scholarships are distributed proportionally to qualifying expenses (tuition) and other expenses (room and board, etc.).

The bill would provide a new tax expenditure in the following amounts:

- o $15 million in fiscal year 1978,
- o $374 million in fiscal year 1979,
- o $612 million in fiscal year 1980,
- o $657 million in fiscal year 1981, and
- o $0 in fiscal year 1982.

These estimates were derived from the Congressional Budget Office's tuition tax credit simulation model. Adjustments have been made to account for the proportion of part-time undergraduate students who attend at least half-time and the proportion of these students who are in school for at least eight months of a calendar year. Another adjustment has been made for the flow of students into and out of school.

APPENDIX C. A TECHNICAL DISCUSSION OF THE BASIS FOR THE TAX CREDIT ESTIMATES

To estimate the costs and distributional effects of various tuition tax credit proposals, the Human Resources and Community Development (HRCD) Division of the Congressional Budget Office has developed a computer simulation model.

Recent Refinements. The modeling technique used for this cost estimate includes the following three refinements over previous preliminary CBO efforts to estimate the impact of tuition tax credits:

- Improving the way in which the veterans' subpopulation of students is approximated. The effect of this revision is to diminish the number of low-income students and slightly increase the benefits to families from higher-income classes.

- Incorporating the 1977 tax law into the tax credit cost simulation. This revision reduces slightly the average family tax liability and thus reduces slightly the costs of the nonrefundable portion of a tax credit plan. In the case of H.R. 12050, this has an appreciable effect because the credit is nonrefundable.

- Previous CBO estimates of tuition tax credits calculated the credit on a family unit basis. This somewhat overestimated the cost of nonrefundable tax credits because tax returns may be filed by more than one member of a family. The new data base permits the credit to be calculated on a tax filing unit basis. Thus, the incomes and subsequent tax liabilities of the economic units (family units with one or more filing units) are smaller in the new data base than in previous estimates.

Data Sources. The Survey of Income and Education (SIE), a large sample survey of the population taken in the spring of 1976 by the Census Bureau, is used as the core data base for the model. The SIE includes a distribution of students and family units in various income classes by the type and level of schooling (private/public, postsecondary/elementary-secondary, etc.).

The federal tax module of the Math model (developed by Mathematica Incorporated) was modified to simulate 1977 tax law on the SIE data. This model calculates the earned income tax credits, the personal credits, and the tax liabilities of the individual tax filing units in the data base. The child care tax credit and the proposed education tax credits have been simulated using data in the CBO model.

Since the SIE does not report the educational expenses incurred by students, it was necessary to merge expenses and benefit data from other sources with the SIE. These sources include:

- The National Center for Education Statistics--data on postsecondary and elementary-secondary enrollments, tuition and total cost in postsecondary education, public/private distribution of students, and nonfederal levels of student assistance.
- The Office of Education--a model for estimating Basic Grants costs which provides the number and size of Basic Grants awards by income class and data on the size and distribution of Supplemental Grants.
- The American Council on Education (Cooperative Institutional Research Program)--data on the overlap between federal and nonfederal student assistance.
- The Ninth Annual Survey of the National Association of State Scholarship and Grant Programs--data on the number of awards and amount of funding provided for state scholarships.
- The Council of Graduate Schools and the National Science Foundation--data on the number and size of awards to graduate students.

All variables were adjusted for projected annual changes.

Limits of the Cost Estimating Procedure. Computer-based simulation models only approximate the actual conditions that will affect the costs and effects of proposed changes. Limitations of the model CBO has developed include the following:

- The model assumes a static student population. It does not include entries to or exits from schools during the academic year. Thus, the model assumes there are four undergraduate classes eligibile for the credit; whereas, in fact, there are slightly more than four. Students who only attend during the spring semester of a calendar year would be eligible for a full credit, depending upon their tuition costs, and entering students for the fall semester also would be eligible for the full credit if their fall tuition costs were high enough. In effect, therefore, five undergraduate classes a year would generate tax credits, rather than the four incorporated into the model. The effect of this phenomenon is to underestimate costs from 8 to 15 percent.

- Fall enrollment figures are used to represent the student population. This, however, does not reflect the attrition that occurs throughout the academic year. To the extent that attrition is not captured in the CBO model, the cost estimate will be too high.

- The CBO estimate is based on the assumption that other student assistance programs remain at current levels. If federal aid increases appreciably, as currently proposed by committees of both the House and the Senate, the cost of tax credits would decline. The new recipients of other forms of federal assistance would be contributing less toward their tuition costs, and, therefore, they would qualify for less tax credit.

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ABSTRACT

The conference focused on various perspectives of the role of institutional research in a time of retrenchment: policy analysis, economic assumptions, resource management, academic planning and cooperative statewide planning. Among the themes addressed were: enrollment projections and financial planning; institutional efficiency and effectiveness; planning for growth in adult and continuing education; student attrition and consumerism; governmental regulations and reporting requirements; and evaluation studies and academic program review. (Author)

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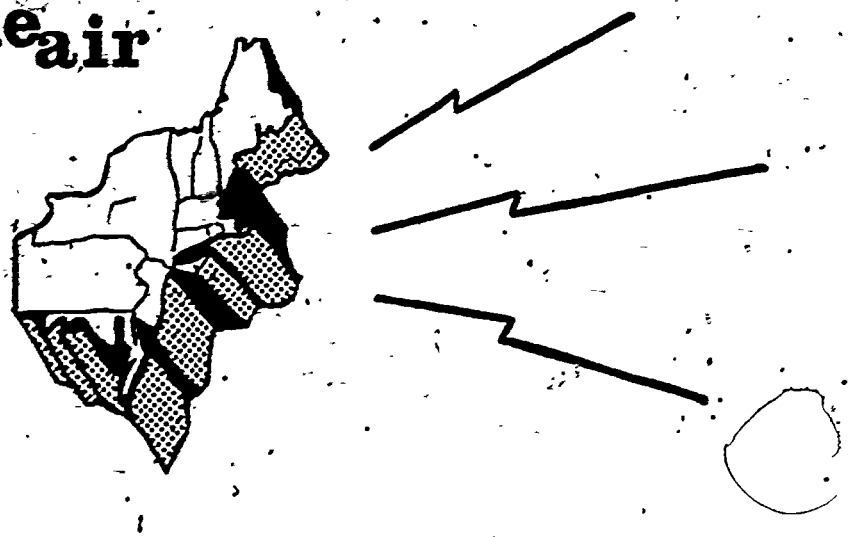

Does IR = Institutional Retrenchment?

Papers from the Fourth Annual Conference

October 27, 28, and 29, 1977

Durham, New Hampshire

DOES IR = INSTITUTIONAL RESEARCH?

Perspectives on the Role of Institutional Research in a time of Retrenchment

NEAIR

Papers from the Fourth Annual Conference

North East Association for Institutional Research

Durham, New Hampshire

October 27, 28, and 29, 1977

PREFACE

The fourth annual conference of the Northeast Association for Institutional Research was held from October 27 through October 29 at the New England Center for Continuing Education, University of New Hampshire, Durham, New Hampshire. The purpose of this year's conference was twofold:

*To disseminate information about the methods and content of institutional planning and research.

*To provide a forum in which institutional researchers can discuss and seek assistance in their common problems.

The conference focused on various perspectives of the role of institutional research in a time of retrenchment: policy analysis, economic assumptions, resource management, academic planning and cooperative statewide planning. Among the themes addressed were:

*Enrollment Projections and Financial Planning

*Institutional Efficienty and Effectiveness

*Planning for Growth in Adult and Continuing Education

*Student Attrition and Consumerism

*Governmental Regulations and Reporting Requirements

*Evaluation Studies and Academic Program Review

The keynote this year was delivered by Dr. Marilyn Gittell, Assistant Vice President and Associate Provost of Brooklyn College. Dr. Gittell, a political science researcher, has supervised institutional research at Brooklyn College where she attempted to put institutional research into a policy process. Basing her remarks on these experiences, she addressed one of this year's conference themes: "Does IR=Institutional Retrenchment?" Her emphasis included the need for institutional researchers to become more action oriented, and more central to an institution's planning process; for their work to become tied to policy planning, and for their work to expand to include program evaluation, self-evaluation, internal and market analysis, and research to meet the needs of all

constituents of the institution.

The papers contained in this publication were submitted in photo-ready copy by the individual participants. These papers do not represent all the papers presented but rather, only those which were submitted by the presentors. Thus, many of the presentations at the conference are unfortunately not reflected in these proceedings. However, the submitted papers do provide an accurate profile of the tenor and tone of the conference.

The conference evaluations were overwhelmingly positive and the success of the conference can be attributed in great part to the untiring efforts of the many individuals, including the Conference Arrangements Committee: ALBERT ELWELL, University System of New Hampshire, and ERIC BROWN, New Hampshire College and University Council. In addition, the help and support of JAN SCHEIBEL and PAT CARON of the NECCE staff can not be overemphasized.

Program Committee reponsible for the program were:

WILLIAM FENSTEMACHER, University of Massachusetts-Boston (Ch.)
JAMES SELGAS, Harrisburg Area Community College, PA.
HELEN WYANT, State University of New York at Buffalo

In addition, the contributions of the Conference Conveners should not go unnoticed and these people were:

WILLIAM FENSTEMACHER, University of Massachusetts-Boston (Ch.)
STEVE BIRRELL, University of New Hampshire
MOLLY BROAD, Syracuse University
ERIC BROWN, New Hampshire College and University Council
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DEVELOPING ECONOMIC ASSUMPTIONS FOR THE 80's

Dr. James R. Speegle
Director of Planning Projects
Rochester Institute of Technology

Economic Assumptions are the building blocks for any rational planning effort. The assumptions that are used are the direct outcome of institutional research. Beginning with that premise, this paper will describe the key role assumptions occupy in implementing a process of planning as learning, and define several of the major assumptions that have been developed at the Rochester Institute of Technology.

Planning at RIT is guided by the following principle: planning is a learning process involving the total Institute community and beyond that will result in anticipatory action rather than crises oriented reaction. Two major activities then are to establish a "best guess" about the future enrivonment for the institution and carefully describe the major components, or assumptions, upon which that best guess is built. When this is done, the planning process is not completed; it has only begun. What is now available is a set of tools for understanding. RIT finds itself at this point presently.

Undoubtedly everyone will agree that you have to make assumptions to build an economic model; no great wisdom there! What may not be agreed upon, or understood, is that the assumptions must be made explicit, clear, simple statements so that all can react to them; so that their genisis can be described; so that their factual basis can be tested; so that they can be modified based upon the interaction and the unfolding of the future. It is in this process that understanding can be achieved and a plan for action constructed.

If the assumptions are carefully developed and widely shared it is my contention that you have a set of testable hypothesis that can be rationally debated. You provide an opportunity to test variations and "what if" possibilities. You have a check on the historical accuracy of your assumptions. In short, the model that rests on the assumptions does not become cast in concrete, the shibboleth, the cause celebre; it is a working, changing tool for understanding.

Maybe I have repeated myself in these introductory remarks; please be assured it is not out of some narcissistic tendency but rather a result of my conviction that this is an important process too often ignored. If I am too critical, I apologize. However, I have witnessed too many instances in institutional research and planning where the end justifies, or hides the means. Process and means are equal to or greater than the ends if planning is to be considered a learning process.

Now that you have sat through that polemic, let me more quietly guide you through some of the major assumptions that we have developed for use in the planning process at RIT.

It will, perhaps, come as no surprise that we assume inflation will be a major feature of current and future educational environments. We further assume that inflation for higher education will outpace general inflation by 1 3/4% and that by the end of the study period (1990) will have compounded at the rate of 6% per year. What then are the basis of these assumptions regarding inflation?

First, it was established that historically there was an inflation gap. This gap relates to several features of higher education: it is labor intensive; it does not have the structural advantage of industry with its ability to increase productivity by the employment of capital through the use of technology and machinery; it is subject to a wide range of publicly mandated social programs. Based upon this analysis, a rather obvious case can be built that the educational dollar will erode at a faster rate than the general dollar. The basis for the 1 3/4% differential is found in the historical documentation of the development of the Higher Education Price Index (HEPI).

What can be assumed about the offsets for this inflationary spiral? In the 1960's which are now counted among "the good old days" there were several factors which robbed higher education of the joys of dealing with inflation: enrollment growth and the "pass-through" concept of educational pricing was one significant factor. The other major ingredient was income transfers from other economic sectors: the percentage of GNP devoted to education more than doubled to 2.5% during those years. The 1970's have been witness to a severe leveling of both trends; the steady state is now an apt description. The 80's? Any projections that have been examined suggest that the rising and steady curves of the past two decades will take on a decidedly negative tilt. Thus, in a set of overly brief and simplified remarks, I have exposed public enemy number one, inflation.

Armed with this set of assumptions, an institution must ask what can be done about inflation and develop a second set of assumptions. It appears

that internal adjustments are the primary source of protection against the ravages of inflation. Can we pass through the entire impact of inflation to student charges? This is hardly a prudent step, particularly for independent institutions, in light of a developing discretionary attitude toward higher education. Can voluntary support and endowment return compensate for the lost revenue? With greater effort on institutional advancement there is some hope of a partial offset but the economic environment impacts these areas also. The primary focus of internal adjustments will fall on that element of educational activity referred to as faculty and staff productivity. As an abstraction, productivity is reflected in the ratio of faculty to students (or staff to students). Assumptions have been developed regarding increasing this ratio; specifically from its current level of approximately 16:1 to 20:1 in 1990. Needless to say, such an assumption requires much definition and debate - but this is vital to a learning process.

Since the productivity assumption is the primary line of defense against inflation, I will describe briefly how we have approached this vital, but volatile area. We have related the discussion of productivity to the projected number of faculty, compensation increments, instructional resource dollars, and the educational delivery system. The analysis of the latter two related factors will demonstrate, at least partially, how RIT is dealing with this issue.

By developing projections of the instructional resource dollars available per FTE student in both current and constant dollars we were able to stress

the important role productivity plays in preventing further erosion. As it is, there is an erosion of well over 200 dollars per FTE student between 1976 and 1990. Inflation is clearly the culprit and productivity the hedge.

Since RIT is committed to quality instruction, productivity will have to be seen in a broader way that just more students in an individual faculty member's classroom, although the traditional view of student/faculty ratios seems to inevitably focus there. As an abstraction, however, the ratio does not reflect other decision variables that can contribute to increasing productivity. Greater use of instructional technology, changing teaching loads, independent study, efficient use of facilities, and an eclectic approach to instructional methods are all means of enhancing productivity. The number of courses in a college that are duplicative are as detrimental as inflation in terms of decreasing instructional expenditures per FTE student and holding down productivity. These decision variables will have to be given due consideration as we prepare for the difficult times projected in the 80's.

Another significant area in which assumptions must be developed is enrollment. How were these developed by RIT? One clear stimulus was the excellent work done by the New York State Education Department in projecting statewide enrollment patterns. Based upon institutional master planning efforts and careful trend analysis, the state has projected a 30% decline in the traditional student population between now and 1990. In addition they provided a set of assumptions on how that decline would impact differentially on institutions across the state. These assumptions were based upon geographic location, program, and other factors. The most important element was institutional demand or attractiveness. This insight provided by the

State Education Department, and widely publicized I might add, caused RIT to examine those assumptions in order to plot our own enrollment patterns.

It was a surprise to us to learn that we were not classified as a high demand institution and it was assumed that the impact of enrollment declines would be felt more severely at RIT. Since the Education Department carefully described their assumptions we were able to test their validity. Demand was based in part upon a ratio of enrollment to applications. In examining this concept we discovered that a large segment of our applicant pool was never counted - those who applied, but because of space limitations their applications were returned and never processed. Through this analysis, the assumptions about enrollment were altered to reflect a somewhat more optomistic, but realistic projection. Obviously, there are considerably more variables that make up enrollment assumptions and the resultant projections, but I use this example to stress the educative nature of clearly stated assumptions.

Although I have not been too specific about the actual assumptions developed for RIT, I can say we have developed 18 major assumptions about such areas as: student charges, governance, campus housing, staffing and compensation, voluntary support, endowment, public support, energy and several others. These are currently being discussed by all members of the Institute community.

Whether you personally agree or disagree with the assumptions that I have described is unimportant; the fact that there is an assumption for you to agree or disagree with is the important element of my message this afternoon. I will be happy to expand on any that you may be interested in discussing. Thank you.

Institutional Research, Institutional Retrenchment, and Resource Management

Dwight C. Smith, Jr.
Office of Inst. Research
S.U.N.Y. at Albany

The conference focus on Institutional Research in a Time of Retrenchment implies that there may be something different about our roles in such a time. That implication seems to have generated its own challenge within each of us: Is anything really different? From an objective systems standpoint, nothing is. Our responsibilities to provide information in support of decision-making about resource management have not changed; our chief executives need workload and enrollment information in good times as well as bad, and our efforts are needed in all seasons.

But even as we defend the objectivity of our professional responsibilities we all know that good times and bad times are not the same. Though our systems and processes are unchanged, the decision-making environment is clearly different in ways that have considerable impact upon the data and analyses we are called upon to produce. The precipitating factor is obvious. As an institution grows in programs, students and faculty, its managers have a different attitude toward their sources of support and the processes of allocation than when the institution is stable or declining in size. As long as there is growth, new demands can be met by new resources. From an institutional standpoint, the significance of those resources is not simply that they are "new" -- indeed, as budgets grow by minimum increments, a new position may have less value than an older one -- but that no one else on campus has an existing claim to them. No oxen are gored when new faculty lines are generated; the need to be met can be examined objectively (even abstractly) on its own merits as a desirable or justifiable purpose.

Let circumstances change, however, and a valid need emerge during a time in which resources are not increasing -- or a requirement to cut back be announced -- and allocation assumes a different character in the minds

of its participants. All resources now are claimed, and the process of reallocation to meet a new need means denying an existing claim. Decisions are no longer abstract and objective; they will hurt, and the hurt must be justified. The actions of the administrator responsible for reallocation must be buttressed by a defensible wall of logic and fact against the responses of those whose existing claims have been denied. That combination of logic and fact must satisfy three questions that are peculiar, in the ordinary setting, to retrenchment and reallocation:

1. Is it necessary? Is the retrenchment crisis (or the new demand) real, or has it been manufactured for some purpose? (The wording of this question suggests that a note of paranoia may be an insistent part of the subsequent dialogue.)
2. Why me? By what criteria has the decision been made that my program should give up resources rather than another?
3. Who says so? What consultation has preceded the decision so that a reasonable person could conclude that my program needs have had a fair hearing?

Behind these questions, and the circumstances that prompt them, stands another factor of considerable importance to decision-making in higher education and to the role of institutional research in its support: the tension between alternative management styles. The most recent issue in the AIR/Jossey-Bass series on "New Directions for Institutional Research"(1) is particularly helpful to all of us in its examination of this tension as the context for our work. Is the campus to operate on the

(1) Carl R. Adams (ed), Appraising Information Needs of Decision Makers, no. 16 (Autumn 1977) in "New Directions for Institutional Research" (San Francisco: Jossey-Bass, Inc., 1977).

basis (to use Earl Cheit's distinction)[2] of folk methods or system methods? We have been through a decade of continuing advances in the development of management systems; the best known products are mainstays of contemporary institutional research. But even as our skills have increased, the attitudes and styles of campus decision-makers have remained more attuned to "loosely organized collections of professionals"[3] that have traditionally characterized the college scene. In growth years, the collective, judgmental approach to resource management can survive with minimal systems support because no one really gets hurt; a "no" answer can simply mean "not yet", and aspirations can remain high. In times of retrenchment or reallocation, however, "no" comes to mean "not at all", and the decision maker is likely to need a more formal and systematic set of justifications. In this context the institutional reseafcher is best described by Bernard Sheehan's three-hat theory[4] as the human interventionist who, understanding the perspectives of decision-maker, analyst, and technician, is able to facilitate a synthesis between traditional academic strategies of incrementalism and the products of systematic management.

Institutional researchers who have participated in resource management will recognize that role. They are likely also to recognize, with Adams et al; a shared frustration with existing limits and past over-promises of various information systems. There are no magic solutions to them; in many respects the most important advances in the campus use of information

(2) Earl F. Cheit, "Challenges Inherent in the Systematic Approach," in Adams, op. cit., p. 59.

(3) Ibid, p. 72.

(4) Bernard S. Sheehan, "Reflections on the Effectiveness of Informational Support for Decision Makers," in Adams, op. cit., pp. 93-95.

systems are those unexportable techniques designed to fit local conditions. Thus, to go beyond general exhortations in discussing resource management in a time of retrenchment with persons representing diverse institutions is a difficult task. Let me advance two suggestions, however, that I think are exportable and exceedingly useful, that come from our experience over the past five years.

But first, a brief word about those five years. It became evident to us in 1972 that our physical facilities would not be enlarged any further: what we saw then was what we would have available for predictable time. We were coming close to capacity usage then, and with a limit in sight we knew that the attitude of expansion that had governed the previous decade (as campus enrollment and faculty had more than tripled) would have to be replaced by some form of steady-state outlook. We began to think of new, considerably more modest enrollment projections. The following year that position was strengthened by Allan Cartter's remarks at the Vancouver AIR Forum (5) concerning future enrollment prospects and the likelihood of steady-state management. Our adjustments were largely theoretical, however, until 1976, when a severe fiscal crisis in New York State mandated a retrenchment in faculty allocations throughout SUNY. We had in the meantime taken time as a campus to begin a serious examination of relative program quality, and had done so within the context of assumptions about mission -- assumptions subsequently clarified and endorsed through the development of a campus mission statement. Thus we had a strong body of qualitative, judgmental material available to support the retrenchment decisions that had to be made. Institutional research was able to support

(5) Allan M. Cartter, "Higher Education Under Steady-State Conditions," in Robert G. Cope (ed), Tomorrow's Imperatives Today (Seattle: AIR, 1973), pp. 18-22.

the process with appropriate statistical data as well, and our success in doing so is a reflection of our response to the steady-state signals we received in 1972-73.

1. Trend data. Most reporting systems emphasize the snapshot approach to campus analysis: a comprehensive, comparative look at all programs at the same instant. The result is a set of single data points that do not (in the absence of fairly sophisticated analytic techniques) sufficiently reflect varying curriculum goals, instructional techniques, and developmental states. They present a weak structure for justifying retrenchment or reallocation of one program rather than another. It is much more effective to assess a department against its own history, and to be able to point to the fact (as a hypothetical example) that over the past five years, department X has had a continually declining enrollment accompanied by stable faculty resources. The result will be a decrease of some amount over time in workload, student faculty ratios, average class sizes, etc., and corresponding increases in unit costs; these quantitative measures can then be combined with assessments of departmental quality and of departmental significance to campus mission as a qualitative-quantitative status report to inform the executive responsible for reallocation decisions.

In summary terms, this is what occurred at Albany in preparation for the 1976 retrenchment actions. It was possible because we had anticipated an eventual need for historic data and had concentrated our efforts between 1972 and 1976 on developing consistent and as accurate as possible records of enrollments, faculty, and budget allocations. Based on this experience it may be fair to say that if a campus waits until it is forced into retrenchment to begin thinking about information needs, it will be too late for institutional research to be effective.

2. The "informed environment". A running complaint of Adams et al concerns failures of timing. Leaving aside for now developmental timing problems (such as the lead time required, as noted above, for the generation of trend data), a serious operational problem exists because of conflicting schedules for academic programming and systematic campus management. Budgets must often be prepared, and initial allocations must be made, before complete and reliable fall enrollment statistics (not to mention subsequent workload analyses) become available; external agencies become anxious for "good news" before a system can produce early tabulations; deans want to know how their respective faculty workloads will be assessed before final teaching assignments have been processed. For many of us there has been a lag in systems development, and there may be ways by which the generation of final data can be speeded; but this is not the whole solution. Specific decision needs may be met this way, though there is no guarantee that this will be the case; but beyond them stands the continuing need of the executive to be as fully informed as possible. The response we have developed is the concept of an informed environment for decision-making on and about the campus.

The informed environment is an environment which supports the formulation, implementation and evaluation of institutional policies and procedures. It supports this process not through a one-to-one correspondence between selected pieces of information and specific decisions but rather through the existence of a longer-term understanding, by decision-makers, of institutional development and the information used to describe that process. The information obtained from current operations supports the process primarily by contributing to a long term body of knowledge. It is upon this body of knowledge that the institution relies for support of specific decisions, and in so doing is freed from the constraints of the current

timetable of data collection, edit, analysis and presentation.

This way of stating the case has its roots in the assertion that "information" is a resource to the campus whose proper development can increase the effectiveness of those more tangible and traditionally recognized resources of money, staff and facilities. It recognizes (by focusing on the promotion rather than the existence of an informed environment) that institutional research does not have exclusive responsibility for information; at the same time, it recognizes that institutional research is the only office on campus that has information for its own sake as its primary focus. Fianlly, by focusing on the environment of decision-making rather than on decisions themselves, it recognizes that institutional research is a staff unit, and that its contributions to campus development are not (and should not be) the only criteria by which decisions are made.

INSTITUTIONAL RESEARCH IN A TIME OF RETRENCHMENT: THE ACADEMIC PLANNING PERSPECTIVE

H. R. Kells
Rutgers University

There is no question that useful, effective institutional research and academic planning are desperately needed in a time of retrenchment. In such times there is a clear need for solid, useful information for decision making and for effective, collaborative processes through which to project into the future the programs and resources of an institution in order to achieve goals. Retrenchment settings are characterized by shortages of time and other resources, by partial or complete institutional stasis, by less "room" for goal displacement and "gut reaction" management, by increased political activity (at least of a certain kind), by shifts in the level and perhaps the mix of governance styles, by increased fear, by pressure to perform, and by the scrutinizing by unusual audiences of the activities and the records of our actions. There is little need to elaborate further.

Some may argue, however, and I tend to align myself with this group, that there is no less desperate a need for effective institutional research and academic planning in times of relative affluence and growth. The form of the damage done through ineffective action in these areas may differ somewhat in the two settings--with over expansion, poor priorities, waste-

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H. R. Kells is University-wide Professor of Higher Education at Rutgers University. This paper was presented at the Fourth Annual Conference of the Northeast Association of Institutional Research, Durham, New Hampshire, October 27, 1977.

ful tendencies and the like in the affluent setting; and over-reaction, dangerous across-the-board moves to mediocracy and the like more prevalent in the sparcer landscape. In addition, the time at which we realize the damage done (often later in the affluent setting) may be different. But the impact on the institution can be equally devastating in the two settings--retrenchment and affluence.

With that proposition as a context for my remarks, I will attempt to make three additional points concerning the academic planning perspective of institutional research--in either setting. The first will concern the relationship between institutional research and academic planning. The second will place both in the management setting. The third concerning the focus of our efforts--particularly in a time of little resources and a time of concentrated, frantic activity.

As a final introductory comment, I would like to recommend to all concerned the excellent review prepared by Dick Richardson and his colleagues at Arizona State entitled "The Need for Institutional Planning" which appeared in the September 1977 issue of ERIC/AAHE's Research Currents (Richardson et al, 1977). In it, the attributes of substantive planning processes are reviewed and the recent focus on sophisticated, technical planning models and systems is put in proper perspective--namely, that the planning process is far more important than the plan which is produced, that a relatively small percentage of institutions with access to sophisticated methodologies understand them and use them, and that "creative change... can happen only if the more complex quantitative techniques and technologically sophisticated models remain our servants rather than our masters" (Richardson, 1977 p.6).

Richardson and his colleagues refer by implication to one of the aspects I have determined to be important in analysing case experiences of collegiate academic planning over the last ten years (Kells, 1977). It is clear to me that most efforts at academic planning fail. That is, most planning attempts do not result in a process which enables the professionals at an institution to meaningfully project the programs, processes and resources into the future toward the achievement of clearly stated goals and in a way which commits the professionals to attempting to fulfill the plans and to further cyclical analysis and planning. These attempts often fail not for want of a sophisticated technical scheme (although in part often <u>because</u> of a naive attempt to impose some pet scheme in a situation which cries out for simpler more purposeful endeavor!), but usually for some very simple reasons. The following list presents in summary form from my experience the major reasons for failure in academic planning processes.

1. Lack of consensus on the goals for planning;
2. Mismatch between planning procedure(s) chosen and the goals for the process;
3. Lack of an adequate <u>basis</u> for planning. The confidence to project effectively (self study and institutional research) is missing;
4. Human relations failures:
   a) Asking people to do things they are not equipped to do;
   b) Poor group leadership;
   c) Poor communication processes in the group;
   d) Not identifying the key resource people;

e) Not making people aware of one anothers strengths, which results in lack of trust and lack of risk-taking;

f) Not using intensive work assignments with a clear beginning and an end in sight;

g) Not rewarding participants appropriately; and

h) Not letting them understand the context for their work.

5. Poor process management:

a) Data not available at the time when it can be used;

b) Poor timing of the process;

c) Inadequate staff assistance;

d) Inadequate funding;

e) Thinking that production of a plan is planning;

f) Inadequate participation--therefore, little psychological "buying in."

g) Poor commitment from the top; and

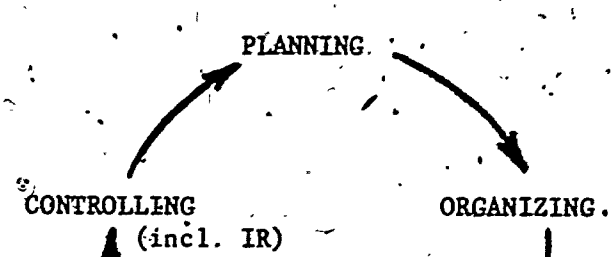
h) Unclear task assignment; poor charge to the sub groups.

(See Kells, Planning. 1977)

As can be seen from the character of the list, my experience points to failures in what one might call the management of the planning process--in both the technical and the human aspects of management. It is my thesis, and this is my second point, that these failures occur in both academic planning processes and in institutional research processes--not just because one is a necessary prerequisite for success in the other (IR for planning)--but because they are both, if they are to be effective, people related processes; computers, charts, data by the pound, and fancy acronymed processes not withstanding. And, institutional research and

planning are part of the management process. My second point about institutional research in a time of retrenchment is a reminder, and this reminder may help us to keep things in perspective in tough times.

Institutional managers must resist the temptation to overreact in times of retrenchment--to throw the baby out with the bathwater. If presidents, vice presidents, and deans spend too much time looking over their shoulder, and if they constantly seek data to make the case to protect their domain, or their job they will throw off the balance of the management process. R. Alec MacKenzie presented most vividely and usefully the management "wheel" depiction, copies of which hang in many offices and are used in so many management courses. It brilliantly interrelates the basic elements of management and illustrates for us in higher education the vital links between institutional research at a college or university and the other elements of the management process.



(See MacKenzie, 1969)

The point to be made is that if institutional research in a time of retrenchment or under any other circumstances is sufficiently diverted from providing a balanced offering of information (re outcomes, re

process matters, re evaluation, re finances, re workload, etc.) to a broad profile of managers and other users, and if the diversion causes a severe mismatch between priority needs for information and the focus of the research, damage is done to management process at the institution--management as we usually know it and the management of learning experiences. This is not a new problem--it has existed since the early 1960's. The "capture" of IR efforts is bemoaned continually. But it is taking on new meaning as the institutional and individual reactions to retrenchment accentuate this problem. Finally, this dislocation of effort on displacement of IR goals is severly felt in the planning process which sits right next to IR in the management "wheel" on a long range and even a daily basis and which always suffers from the lack of availability of the right information being available at the right time for the right people to use.

The third and final point I would like to make is related to the second and concerns the specific focus of IR work in a time of diminished resources. Specifically, it concerns the efficiency of our processes--the economy of effort, or making maximum the results of a given amount of effort. To illustrate the point, I would like to use an example with which all institutional research workers are or sooner or later become quite familiar--the process of institutional self study which is conducted (or ought to be conducted) as part of the institutional accreditation process. This is of particular importance in the Middle States and New England region because of the new, more flexible options which either have been (MSA) or now are (NE) available to make this exercise into something useful rather than the expensive diversion it can sometimes become. To put it succintly, it is now possible for an institution coming up for

reaffirmation of accreditation to request permission to design (on a custom-made basis) a self study process which keeps the institution (and particularly the IR office) focusing its efforts on current, real problems and opportunities while also meeting the needs of the regional accreditation commission. Basically there are five approaches which have been developed.

Approaches to Institutional Self Study

1. Comprehensive Self Study
2. Comprehensive with Special Emphases
3. Selected Topics Approach
4. Current Special Study Approach
5. Regular Institutional Research Approach

(See: Educ. Record, 1972, pp. 143-8,
Educ. Record, 1976, pp. 24-8,
North Central Quarterly, Fall 1977,
MSA Self Study Handbook, pp. 17-21, or
New England Commission Guidelines.)

The MSA Commission has had about seven years of experience using these approaches. Basically, the self study design process must consider several factors in order that the institution's needs be well served and in order that the accreditation process can amply see if the definition of an accredited institution can be explored for the college in question--clearly stated goals; achieved in large part; resources (human, fiscal, and physical) to continue to do so.

Factors in Self Study Design

1. Status of planning on the campus; and in the state.
2. Status of institutional research and institutional data in general.
3. Understanding of, consensus on, and nature of institutional goals and problems.
4. Commitment of institution's leadership to conduct self study for its own improvement-oriented purposes.
5. Age, size, complexity of the institution.
6. Stability/turnover of institutional leadership (awareness, need for review, etc.)
7. Turnover, growth in teaching and support staff.
8. Presence or absence of systems to regularly gather information (facts and opinions) an educational effectiveness (achievement of goals, and suggestions for improvement).
9. Energy level, political and historical factors.

In light of these factors, a self study process which diverts an institution but little from its preferred course of activity or which perhaps pushes it to a greater congruence between institutional needs and IR and other related activities can be used. In times of financial and other stress, this is invaluable. The effectiveness of these approaches over the last five years is now being studied by this researcher in a major funded study in the MSA region.

In summary, I have made four points in this paper. First, that from the academic planning perspective (and from other perspectives as well) times of retrenchment may place no greater demands on IR in a long range

sense than do more affluent times. Second, that both IR and planning efforts often fail for the same reasons--mostly people/human relations/ management reasons and that this is accentuated if anything in times of retrenchment. Third, that IR is part of management--and we must not forget this--and that since it sits next to planning in the management process--planning can be severly damaged if IR efforts are "captured" by overreactions during retrenchment (or at other times). And finally, that institutions can find ways to focus their efforts IR effectively (and therefore be efficient and effective) if they analyse their needs and move intelligently to make congruent their IR efforts and the statement of institutional problems and needs. The new approaches to institutional self study available for use with institutional accreditation is an example where this can work well.

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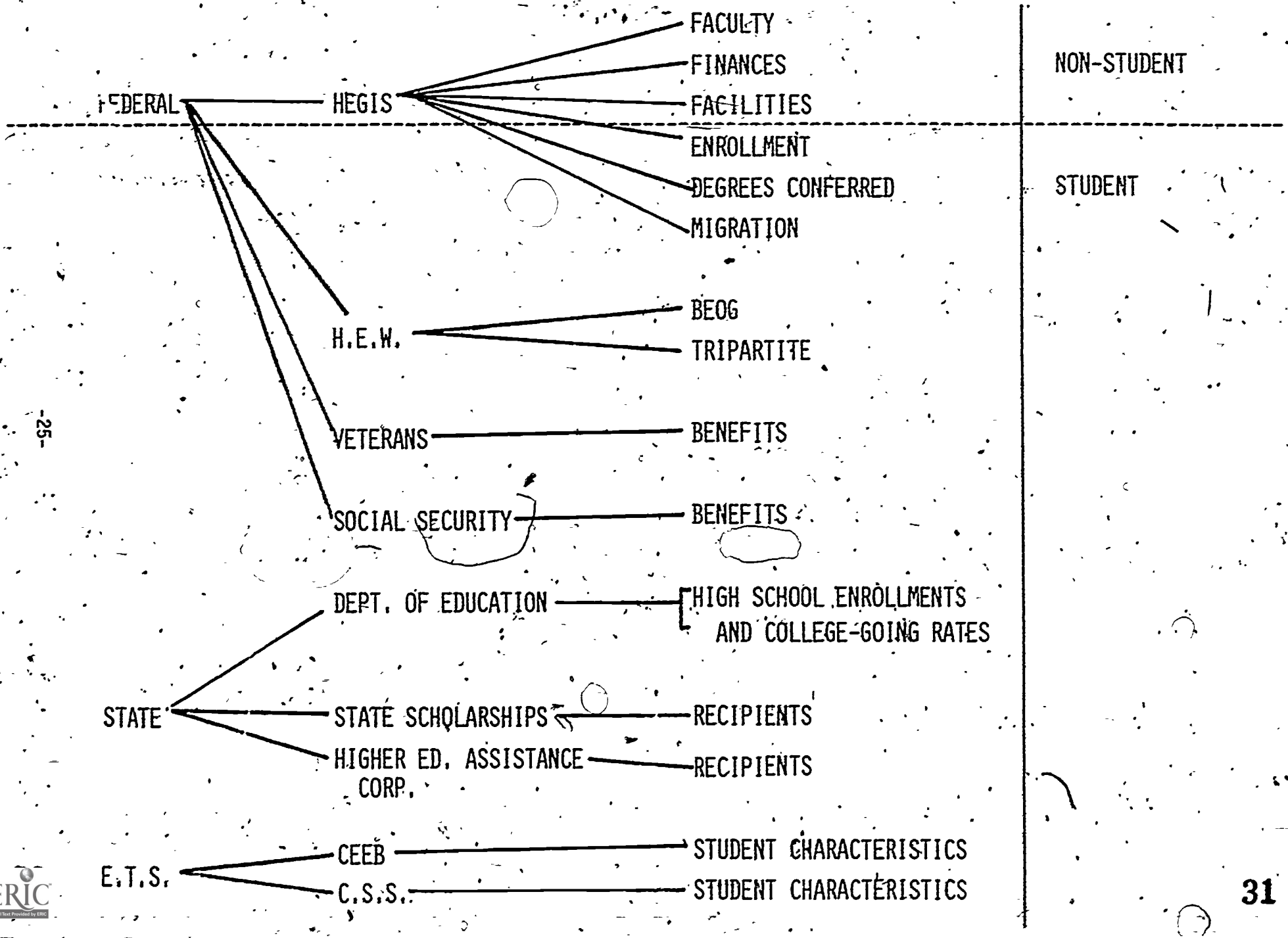
BACKGROUND MATERIALS

STATEWIDE PLANNING: NEW HAMPSHIRE -- AN ATYPICAL EXAMPLE

ERIC BROWN
NHCUC
OCTOBER, 1977

SOURCES OF INSTANT DATA



STATEWIDE GOAL I:

"ANY STUDENT WITH THE DESIRE AND ABILITY CAN PURSUE HIS OR HER POSTSECONDARY EDUCATION AT A TIME WHICH IS CONVENIENT AND AT A PRICE WHICH HE OR SHE CAN AFFORD TO PAY"

PROGRAM A: "ALL LEGITIMATE FINANCIAL NEEDS MET FROM PUBLIC AND/OR PRIVATE SOURCES FOR TOTAL POSTSECONDARY EXPENSES"

DIRECT STRATEGIES

1. INCREASE INSTITUTIONAL FINANCIAL AID
2. INCREASE STATE GRANT AND LOAN FUNDS
3. INCREASE FEDERAL FUNDS TO STUDENTS
4. INCREASE FEDERAL FUNDS TO INSTITUTIONS

INDIRECT STRATEGIES

1. STATEWIDE WATS LINE
2. NON-TRADITIONAL EDUCATIONAL CATALOGUE
3. ADMISSION OVERLAP ANALYSIS

STATEWIDE GOAL I:

"ANY STUDENT WITH THE DESIRE AND ABILITY CAN PURSUE HIS OR HER POSTSECONDARY EDUCATION AT A TIME WHICH IS CONVENIENT AND AT A PRICE WHICH HE OR SHE CAN AFFORD TO PAY".

PROGRAM B: "A SUFFICIENT NUMBER OF PROGRAMS. . . TO ACCOMMODATE THE LEGITIMATE NEEDS OF ALL STUDENTS"

INDICATORS OF DEMAND

1. POTENTIAL APPLICANT POOL ACADEMIC INTERESTS
2. ACTUAL APPLICANT POOL ACADEMIC INTERESTS
3. ENROLLED STUDENTS ACADEMIC INTERESTS
4. DEGREES CONFERRED

INDICATORS OF SUPPLY

1. NUMBERS OF PROGRAMS

PROGRAM B

SAMPLE DATA

POTENTIAL APPLICANT POOL	ACTUAL APPLICANT POOL	ENROLLED STUDENTS	DEGREES CONFERRED	PROGRAMS OFFERED	1/5	2/5	3/5	4/5
3,172	146	55	76	32	99.1	45	1.7	2.4

THE PROCESS FOR DEVELOPING A MACRO-FRAMEWORK FOR INSTITUTIONAL PLANNING

Dr. James R. Speegle
Director of Planning Projects
Rochester Institute of Technology

In order to understand the process of planning at the Rochester Institute of Technology, it is necessary to describe the Institute which is about to celebrate its 150th Anniversary. It has grown out of Rochester's cultural heritage and industrial development and has continually responded to this lineage. Throughout the majority of its history it did not confer degrees, but its diplomas and certificates were held by a large percentage of the skilled workers in Rochester industry. Only as recently as 1955 was the first baccalaureate degree awarded and in 1958 the first master's degree.

Today RIT is an amalgam of 9 colleges serving 7800 FTE students. The nine colleges are: Business, Fine and Applied Arts, Engineering, General Studies, Graphic Arts and Photography, Science, Continuing Education and the two newest colleges, Institute College and the National Technical Institute for the Deaf. Institute College is itself an amalgam responding to new program challenges in such diverse fields as computer science, instructional technology, career information services, and the engineering technologies. It is interesting to note that 1/3 of our students are majoring in programs developed since 1971.

The NTID is a totally federally sponsored program. It serves 750 deaf students of whom approximately 30% pursue degree programs in the parent institution and 70% pursue technically related diploma and associate degree programs that parallel RIT's program strengths.

RIT is located on a 1300-acre campus that was constructed from scratch and first occupied in 1969. Two-thirds of the students come from the Rochester Metropolitan region and the state of New York and the other one-third from out of state. Fully 40% of any entering group are transfer

students. The student body has grown by 3-7% every year in this decade.

The Institute is career oriented and the majority of its programs have a cooperative education component. Its motto, education to earn a living and to live a life, has served as its guiding force through its entire history.

A relatively healthy institution and young in outlook; one may wonder why the introspective look suggested by the process and report reviewed in this paper. There are several factors that influenced this serious process and one only needs to look at the Institute's position in the late 60's and early 70's: growth so rapid that the budget for the auxiliary enterprise in 1974 was bigger than the total Institute budget in 1969; a deficit in those years approaching 2.7 million dollars by 1970; a totally new physical plant and heavy debt service burdens; a new chief executive in 1969.

Changes of this nature and magnitude can seriously erode the essential nature of the enterprise. Thus, in early 1970 it was determined that planned forethought was necessary to guide RIT through the decade of the 70's.

The first step was to renew the commitment to the goals and objectives that had long served RIT but were new to the generation which was now to shepherd the resources. Discussions were held throughout the Institute community to develop consensus on the newly stated but enduring goals. When understanding was achieved, it was necessary to develop mechanisms that kept these goals in focus. These included:

(1) a President's Convocation each Fall to apprise the faculty and staff of the Institute's progress

(2) the establishment of agreed-upon targets for the 70's such as: average salaries increasing to rank within the top quartile of all institutions; productivity increments of .5 students per year in the student/faculty ratio; no new buildings; a balanced budget position; newly established governance arrangements; consultative decision-making; new efforts toward increasing voluntary support

(3) annual reporting on the achievement of the targets through a process known as the "White Paper" which is the responsibility of the Vice President for Finance and Administration and the Priority and Objectives Committee of the Policy Council, RIT's primary policy advisory body.

These activities were related to developing positive attitudes across campus, increasing morale, and laying a firm foundation for rational progress. Incidentally, it helps when it can be reported that all targets for the 70's have been or will be met by the end of the decade with one exception: we did construct one new building in response to increasing need for general classroom space.

A parallel set of activities developed around the state mandated requirement for master planning. Obviously, the two processes are interrelated but it was discovered that we were better at institutional level planning than we were at unit level planning. The planning by units was adequate, but when summed over the Institute, it was found to be held together only by a paper clip; it was not well integrated.

This latter position suggested that there should be a process to integrate all planning efforts, but particularly the macro with the micro. A second motivation revolved around the ominous clouds on the horizon that were being spotted by the higher education community. How would the changing environment anticipated in the next decade impact RIT?

These two major questions provided impetus for the current effort of the presidentially appointed Economic Study Commission. The purpose of the Economic Study Commission was two-fold: to continue the planning momentum and to provide a comprehensive framework within which micro planning at the unit level would occur in the future.

The specific charge developed for the Commission included:

(1) a review of the financial position of RIT

(2) a review of the current fiscal assumptions and modifications as necessary

(3) the development of programs and financial options in case of emergency

(4) the development of ways to use the land resources

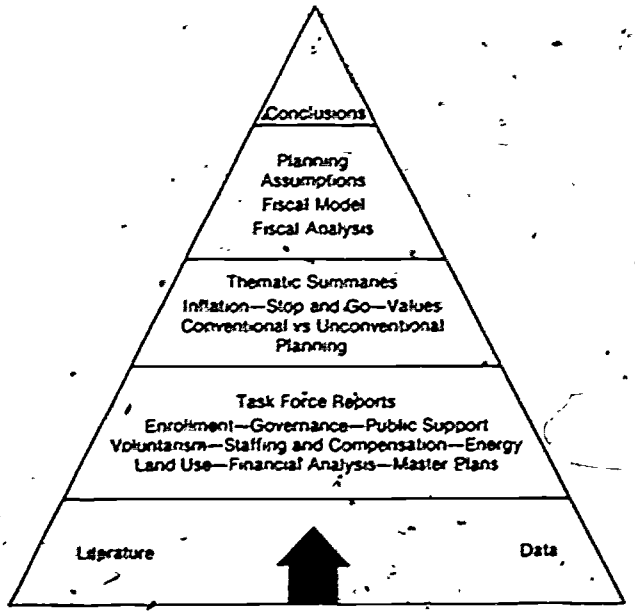
(5) an exploration of the implications of state and regional planning and system development to RIT's future.

A relatively small working Commission was appointed consisting of two Trustees, two Vice Presidents, one Dean and one faculty member, plus two staff members.

Initial discussions were convened to plumb the State and local economic forecasts. The second step was to define areas of study. When this was

completed, each Commission member selected an area and a Task Force was developed to respond to the issue. Each Task Force tapped expertise throughout the Institute and the reports they developed were based upon research studies, questionnaires, interviews, data analysis, hearings, and the deliberations of the Task Force. The Commission staff served as staff to each of the Task Forces. This was found to be extremely helpful in that it freed members to explore questions more creatively and to know that they would receive back-up support to whatever degree necessary.

The process is demonstrated in the accompanying diagram:



The base of the pyramid represents the existing data base, both internal and external. Task Forces researched questions of enrollment, governance, public support, voluntarism, staffing and compensation, energy, land use, finances, and the existing master planning assumptions. The thematic summaries represent a distillation of the meaning of each task force report

integrated into a description of the expected environment of the 80's. The reports and the thematic summary provided the base for determining the new assumptions and the resultant economic model. The conclusions are a series of questions or challenges the Institute must confront over the next several years.

The themes that emerged from this two-year study can be briefly stated as follows:

1. Inflation will seriously erode the resources available for higher education. There will be no significant income transfers from other sectors of our society, thus, the burden of responding to this devaluation of the educational dollar will be an internal responsibility.

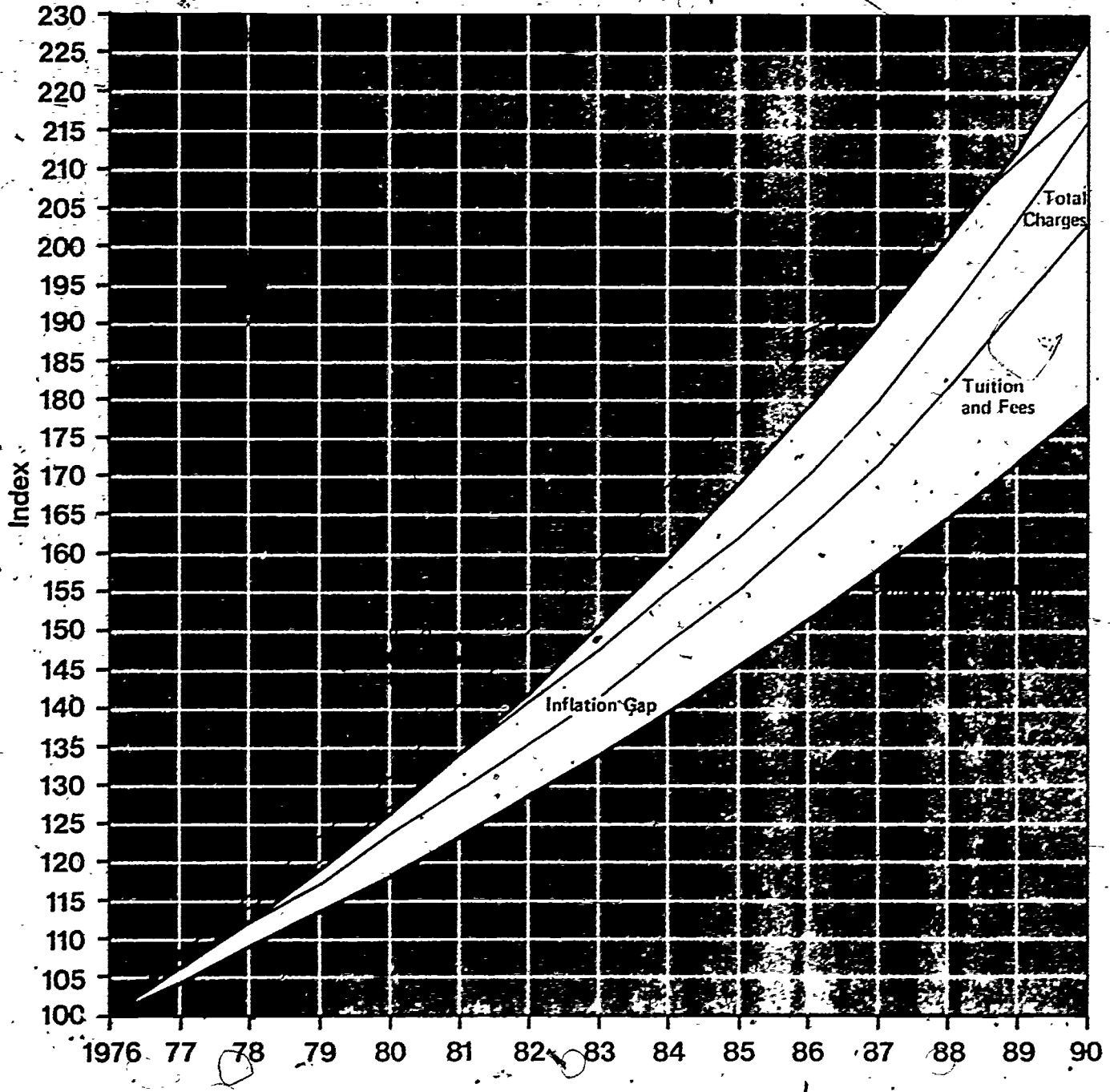
2. A "stop and go" environment will characterize the 80's. Volatility and turbulence will mark the economic, political and demographic sectors of our society. Again, the hedge will only be found internally.

3. Values are changing and the trends indicate that higher education will no longer occupy its traditional place of pre-eminance in society's vision of progress. It is necessary, therefore, to understand and influence these trends and develop anticipatory responses.

4. Institute self-analysis suggests that RIT is unconventional in several respects. To maintain this position it is necessary to establish priorities which will keep RIT on its unconventional track.

Rochester Institute of Technology
Economic Study Commission

Comparison of Projected Higher Education and General Inflation, RIT Student Charges, and Per Capita Disposable Personal Income



Annual Inflation Rate. Compounded Annually

Higher Education - 6.0%
General = 4¼%

Results in

Average Annual Inflation Rate of.

Higher Education - 9.0%
General - 5.6%

RIT Annual Student Charge Increase Compounded Annually.

Tuition and Fees = 4¾%
Room and Board (not charted) - 6¼%
Total Student Charges - 5½%

RIT Average Annual Rate of.

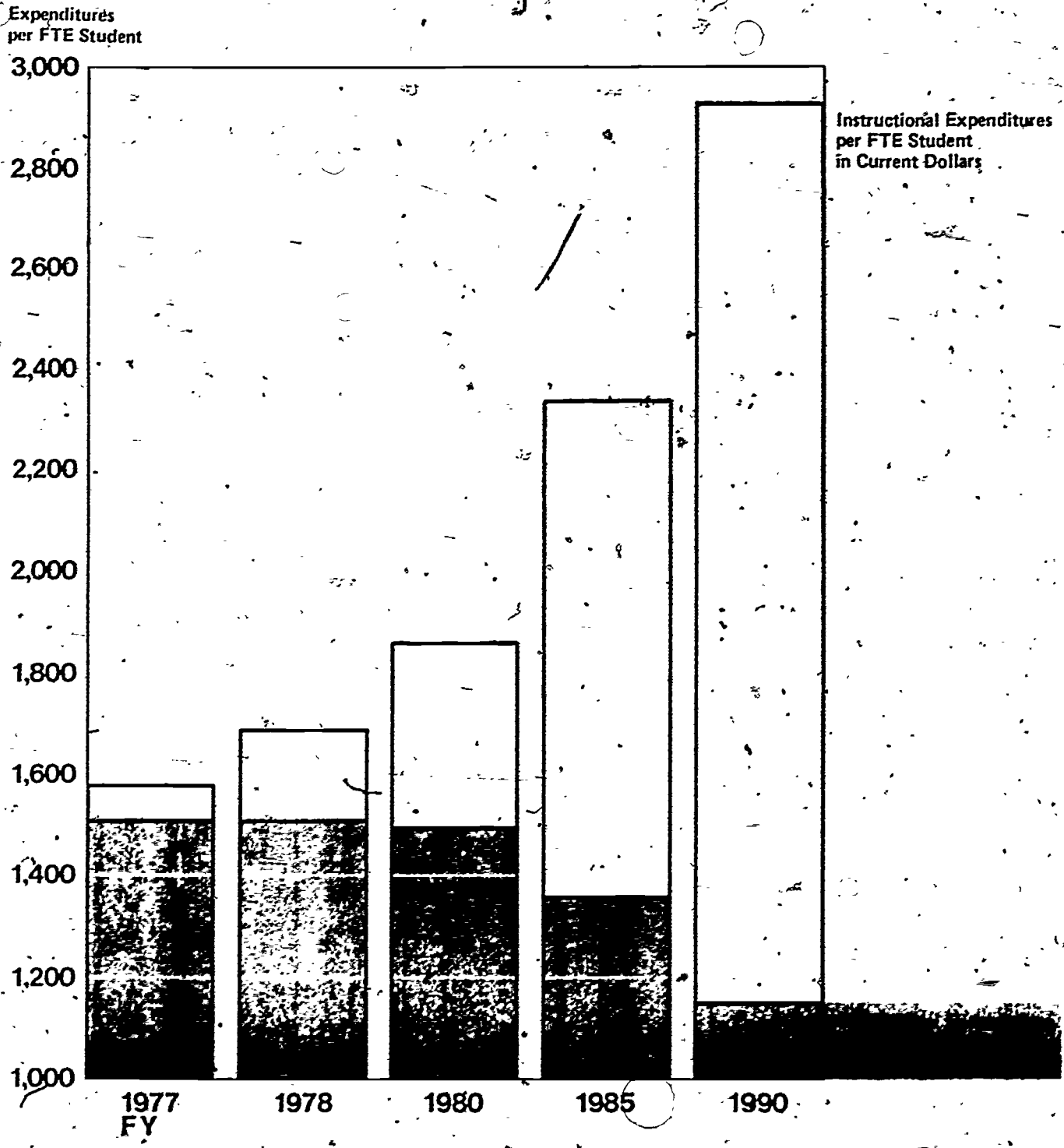
Tuition and Fees - 7.1%
Room and Board - 9.4%
Total Student Charges - 8.0%

CHART 1

Rochester Institute of Technology
Economic Study Commission

Projected Instructional Expenditures (1) Per Full-time Equivalent Student in Current Dollars and Constant 1976 Dollars for the Fiscal Years 1976-1990

Primary Model



(1) Excluding NTID

(2) Assumes higher education inflation costs of 6% compounded annually

CHART 2

5. One of the priorities is an imperative for planning in order to focus issues for units across the campus and develop responsive, reasoned actions.

To highlight these themes that will inevitably play-out on the Institute over the next decade, we developed a series of projections. They are for the most part relatively simple, straight line projections based on the detailed assumptions. The model that is constructed is largely enrollment and inflation driven. It essentially represents our best guess about what the income and expenditure trends will be if we keep on doing business as usual.

Several examples may prove useful.

Since inflation is projected to be a major and continuing problem, it was necessary to demonstrate its compounding effect and its differential impact on institutions of higher education. An assumed inflation rate of 4½% for the general economy and 6% for higher education results in significant "inflation gap" over the period reported. In the Commission report we overlayed projected tuition rates and total charges plus per capita disposable personal income. This was to demonstrate that (1) we would not pass along all the effects of inflation to the consumer and (2) that it was not likely we would price ourselves out of the market. (see chart I)

Another chart deals with the projected instructional expenditures per FTE student. This chart vividly demonstrates that the current dollar amount will increase substantially, but with inflation removed it will actually represent a decline of resources available for instructional expenditures. This was also included to demonstrate the necessity of significant gains in

productivity (student/faculty ratio) to protect against further devaluation. (See chart 2)

Finally, so that there would be a better understanding of allocation decisions and their interrelation, we included a chart describing educational and general revenues and expenditures by category as a percentage of total educational and general. This chart demonstrates the changing nature of the revenue pattern with endowment return and voluntary support assuming the burden of losses in student tuition and fees. On the expenditure side, the significance of spiraling energy costs can be seen eroding the dollars that can be allocated to institutional support, student services, and instruction and direct educational activities. (See chart 3) These charts are intended to be instructive tools and not definitive projections.

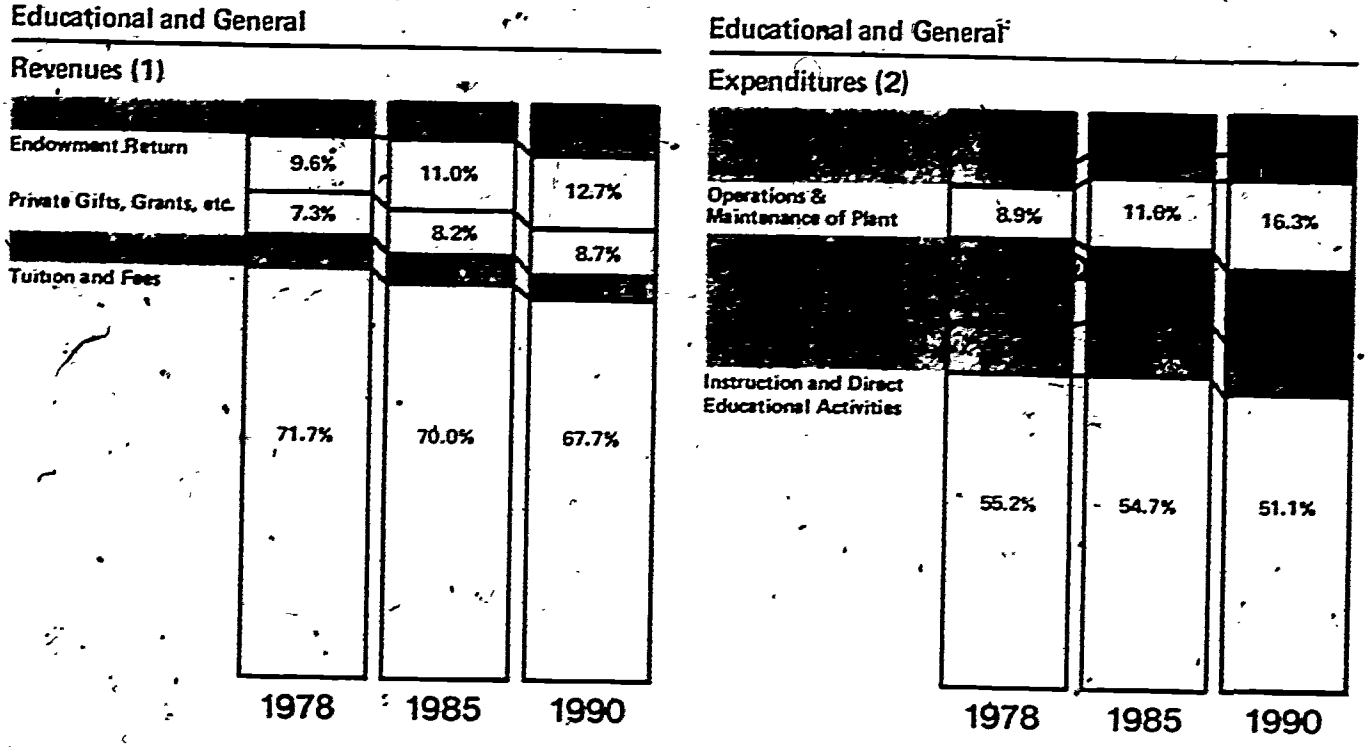
The report on "The Third Decade" was completed in the Spring of 1977. A companion document from the Institutional Advancement Commission is nearing completion. The IAC report will focus on means for increasing the probability that private sources of financial largesse will indeed assume an increasing share of income production.

At this time it can be fairly asked if RIT is indeed ready to face the tumultuous times ahead. The answer is clearly No: the financial model assumes a business as usual stance and does not take into account bold new ventures; the linkages between the macro-environment and the micro-environment have not been established; a plan for action has not been developed by each unit of the Institute; finally, it must be wondered if the report on "The Third Decade" will meet the same fate as many other dust-covered documents.

Rochester Institute of Technology
Economic Study Commission

Comparison of Educational and General Revenues and Expenditures by Categories as a Percentage of Total Educational and General for the Fiscal Years 1978, 1985, and 1990.

Primary Projection Model



(1) Excluding NTID
(2) Excluding NTID and Educational Debt Service

To move the process beyond the descriptive, a great deal more needs to happen. In response to the imperative for planning recommendations, a planning officer has been appointed. Reflective of the philosophy of planning at RIT, that officer has been entitled Director of Planning Projects indicating that planning is the result of decentralized projects and not the product of a single office. Planning is further defined as a learning process.

To insure that the learning process continues and reasoned action results, several other steps have been taken:

(1) The President in his Fall message to the faculty has highlighted what needs to be done to adequately prepare for the 80's through Institute-wide planning. He appointed a faculty Task Force on the 80's to sharpen the issues identified by the Economic Study Commission and determine which units should respond to them. In addition, this Task Force is to act as the Steering Committee for RIT's accreditation review and to develop the specific plan for the Institute for the 80's.

(2) Two standing committees of the Policy Council have been assigned basic questions that will assist the planning effort: What is the optimum educational size of the Institute and what are the essential competencies an RIT student should acquire during his or her education?

(3) "The Third Decade" has been distributed to all members of the Institute community. Many groups have elected to focus on its implications during the course of the year.

Several faculty members are currently developing a simulation game using the Commission report as the basis. It is felt this will assist in moving closer to the intended use of the report as a learning tool.

(4) The budgeting process has now built-in funding for program innovations and contingencies to hedge against short-falls. In the past, the budget cycle has been one year; it is being expanded to a two-year cycle.

(5) Recognizing that institutional morale is important, the base is being constructed for responding to the professional and personal development needs of members of the RIT community. A series of seminars is planned for this year. They will begin to ascertain those needs and to assure faculty and staff that positive and developmental activities can serve as an appropriate response to the decade ahead.

It is apparent that the framework of information available has stimulated preparation for the future. One note of caution needs to be interjected at this point. There are problems ahead but they should not be used to frighted faculty or to create a sense of inevitability. Indeed, we should focus on the opportunities that this new environment will create. As a labor intensive enterprise, we must concentrate on the human resources that are truly the fund for the future. At this point, to concentrate on the tools and not the process; to look for decision from data and not from people would be a serious mistake. The emphasis in planning needs to be on

simple decision-making procedures that are sufficiently democratic and participative to respond naturally to environmental change. To be effective, planning procedures must be characterized by simplicity, flexibility, the ability to keep pertinent information in focus, and provision for meaningful participation by all concerned.[1]

In short, planning must be viewed as a learning process.

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[1] Richardson, Richard C., Don E. Gardner, and Ann Pierce, "The Need for Institutional Planning" in ERIC/Higher Education Research Currents, September, 1977.

SELECTED BIBLIOGRAPHY ON THE TOPIC OF PERSISTENCE AND ATTRITION IN POSTSECONDARY EDUCATION

PREPARED BY
PETER T. FARAGO
OFFICE OF ANALYTICAL STUDIES AND PLANNING
BOSTON UNIVERSITY
(OCTOBER 1977)

THIS ANNOTATED BIBLIOGRAPHY IS INTENDED FOR THE RESEARCHER OR THE INSTITUTIONAL PLANNER WHO IS INTERESTED IN SAMPLING RECENT LITERATURE RELATED TO THE SUBJECT OF COLLEGE STUDENT ATTRITION AND RETENTION; IT IS BY NO MEANS AN EXHAUSTIVE LIST, RATHER IT IS PROVIDED TO BE USED AS A STARTING POINT. SEVERAL OF THE ITEMS CITED CONTAIN EXTENSIVE LISTS REFERENCING OTHER RELATED MATERIALS. WHERE APPLICABLE, ANNOTATIONS START WITH SOME KEY WORDS INDICATING THE TYPE OF INSTITUTION STUDIED, THE TYPE OF STUDY CONDUCTED, AND WHETHER THE QUESTIONS ASKED PERTAINED TO THE NUMBERS OR TO THE REASONS RELATED TO ATTRITION. 'REFERENCES' INDICATES THAT THE ITEM IS A GOOD SOURCE FOR FURTHER REFERENCES.
LASTLY, SOME SOURCES NOT LISTED HERE ARE THE PERIODIC 'ERIC' INDECES, THE 'DISSERTATION ABSTRACTS', AND THE SOCIAL SCIENCES EDITION OF 'CURRENT CONTENTS', ALL OF WHICH ARE AVAILABLE AT MANY LIBRARIES. THEY ALL INCLUDE ITEMS UNDER THE HEADING OF 'DROPOUTS', AND ARE USEFUL FOR KEEPING UP WITH RECENT PUBLICATIONS.

SELECTED BIBLIOGRAPHY ON THE TOPIC OF PERSISTENCE AND ATTRITION IN POSTSECONDARY EDUCATION

ASTIN, ALEXANDER W.
COLLEGE DROPOUTS: A NATIONAL PROFILE,
AMER. COUNCIL ON EDUCATION, RESEARCH REPORT VOL.7, NO.1
(FEB.1972)

MULTI-INSTITUTIONAL, LONGITUDINAL, NUMBERS, REASONS
BASED ON DATA FROM STUDENTS ATTENDING A REPRESENTATIVE NATIONAL SAMPLE OF 217 INSTITUTIONS, INCLUDING TWO- AND FOUR-YEAR COLLEGES AND UNIVERSITIES. USING THE FRESHMAN CLASS ENTERING IN FALL 1966, THE STUDY EXAMINES THE NATIONAL DROPOUT RATE, AND THE RELATIONSHIP OF VARIOUS PERSONAL AND ENVIRONMENTAL FACTORS TO DROPPING OUT. DATA WERE COMPILED BASED ON INITIAL STUDENT QUESTIONNAIRES AND FOLLOWUPS ONE AND FOUR YEARS AFTER COLLEGE ENTRY.

ASTIN, ALEXANDER W.
PREVENTING STUDENTS FROM DROPPING OUT,
JOSSEY-BASS INC., SAN FRANCISCO (1975)

MULTI-INSTITUTIONAL, LONGITUDINAL, NUMBERS, REASONS
QUESTIONNAIRE DATA WERE COLLECTED FROM THE FRESHMAN CLASS ENTERING IN THE FALL OF 1968 AND FOLLOWED UP FOUR YEARS LATER. THE SAMPLE GROUP WAS SELECTED FROM 358 TWO- AND FOUR-YEAR COLLEGES AND UNIVERSITIES. NATIONAL AVERAGE DROPOUT RATE WAS DETERMINED FOR VARIOUS TYPES OF INSTITUTIONS. THE CORRELATIONS WITH PERSISTENCE WERE ESTABLISHED FOR A LARGE NUMBER OF FACTORS INVOLVING ACADEMIC VARIABLES, FINANCIAL VARIABLES, STUDENT EMPLOYMENT STATUS, STUDENT RESIDENCE, COLLEGE CHARACTERISTICS, AND THE MATCH BETWEEN THE STUDENT AND THE INSTITUTION. A LIST OF CONCLUSIONS WERE DRAWN AND A WORKSHEET IS PROPOSED FOR PREDICTING A STUDENT'S CHANCES, RELATIVE TO THE NATIONAL AVERAGE, FOR DROPPING OUT.

CHASE, CLINTON J., ET. AL
"PERSISTENCE AND CONDITIONS RELATED TO IT: A PERSISTENT QUESTION"
INDIANA STUDIES IN PREDICTION, REPORT NO.32, INDIANA UNIV., BUREAU OF EDUCATIONAL STUDIES AND TESTING, BLOOMINGTON, (NOV. 1976)

PUBLIC UNIVERSITY, LONGITUDINAL, NUMBERS, REASONS
THIS STUDY FOLLOWS FALL AND SPRING FRESHMAN COHORTS OF 1971, 1973, AND 1974 OVER VARIOUS TIME PERIODS RANGING FROM FOUR TO TEN SEMESTERS. ACADEMIC AND NON-ACADEMIC DROPOUTS ARE DISTINGUISHED. SIGNIFICANTLY DIFFERENT PERSISTENCE PATTERNS WERE OBSERVED FOR FALL AND SPRING COHORTS. THE EFFECTS OF VARIOUS FACTORS OTHER THAN ACADEMIC STANDING WERE EXAMINED, INCLUDING STATE RESIDENCY, URBAN OR NON-URBAN HOME, PARENT ALUMNI, ETC.

COLLEGE STUDENT PERSONNEL ABSTRACTS - PUBLISHED QUARTERLY BY THE NATIONAL ASSOCIATION OF STUDENT PERSONNEL ADMINISTRATORS (NASPA) SEE: "ATTRITION"

REFERENCES
THIS QUARTELY JOURNAL REGULARLY HAS A SECTION TITLED "ATTRITION", WHICH PRESENTS ABSTRACTS OF RECENT PUBLICATIONS RELATED TO THIS AREA.

COFE, ROBERT G. AND WILLIAM HANNAH.
REVOLVING COLLEGE DOORS - THE CAUSES AND CONSEQUENSCES OF DROPPING OUT, STOPPING OUT OR TRANSFERRING. J. WILEY, NEW YORK (1975)

GENERAL, DESCRIPTIVE, REFERENCES
THIS IS AN EXCELLENT OVERVIEW OF THE CURRENT KNOWLEDGE CONCERNING COLLEGE ATTRITION. BY COLLECTING INFORMATION FROM AVAILABLE PUBLICATIONS AND ADDING TO IT THE RESULTS OF THE AUTHORS' EXTENSIVE RESEARCH, THEY CONSTRUCT A CLEAR AND COMPREHENSIVE DESCRIPTION OF THE SUBJECT MATTER. AN ATTEMPT IS MADE TO PROVOKE THE READER TO THINK ABOUT THE BENEFITS AS WELL AS THE NEGATIVE EFFECTS OF DROPPING OUT AND STOPPING OUT. INCLUDED ARE A GOOD 'SUMMARY AND RECOMMENDATIONS' CHAPTER, AS WELL AS A VERY EXTENSIVE 20 PAGE LIST OF REFERENCES.

EL-KAWAS, ELAINE H. AND ANN A. BISCONTI
'FIVE AND TEN YEARS AFTER COLLEGE ENTRY'
AMERICAN COUNCIL ON EDUCATION, RESEARCH REPORT VOL.9, NO.1. (1974)

GILBERT, CHARLES C. AND LOWELL A LUECK.
'APPROACHES TO STUDYING THE STUDENT DROPOUT - OR WHERE HAVE ALL THE STUDENTS GONE?'
AVAILABLE FROM ERIC, #ED 134 129 (1976)

MULTI-INSTITUTIONAL, LONGITUDINAL, NUMBERS, REASONS
USING A REPRESENTATIVE NATIONAL SAMPLE, MEMBERS OF THE 1961 AND 1966 COHORTS WERE CONTACTED IN 1971 BY MEANS OF MAILED QUESTIONNAIRES. THIS IS AN EXTENSIVE REPORT ON THE ACADEMIC PROGRESS AND THE EMPLOYMENT EXPERIENCE OF THE MEMBERS OF THE TWO COHORTS.

GILBERT, CHARLES C. AND LOWELL A. LUECK
'THE STUDENT FLOW MODEL AS A TOOL TO ANALYZE THE STUDENT DROPOUT'
AVAILABLE FROM ERIC, #ED 131 818

HARRIS, SEYMOUR E.
A STATISTICAL PORTRAIT OF HIGHER EDUCATION.
MCGRAW-HILL, NEW YORK (1972) (CARNEGIE COMMISSION ON HIGHER EDUCATION)

CONTAINS DATA RELATED TO NATIONAL ATTRITION PATTERNS IN THE 1950'S AND 1960'S. (SEE PP. 66-73, 445-449)

KESSELMAN, JUDI R.
'THE CARE AND FEEDING OF STOP-OUTS'
CHANGE VOL.8, NO.4, PP13-15 (MAY, 1976)

THE AUTHOR SUGGESTS THAT NOT ENOUGH ATTENTION IS PAID BY INSTITUTIONS TO STUDENTS WHO MAY WISH TO (OFTEN TO THEIR BENEFIT) INTERRUPT THEIR STUDIES FOR ONE OR MORE SEMESTERS. SHE SUGGESTS WAYS WHICH COULD MAKE SUCH AN EXPERIENCE EASIER AND MORE BENEFICIAL FOR THE STUDENT, AND MAY AT THE SAME TIME INCREASE THE LIKELIHOOD OF THEIR RETURNING TO COMPLETE THEIR UNDERGRADUATE EDUCATION.

KESSELMAN, JUDI R.
STOPPING OUT, A GUIDE TO LEAVING COLLEGE AND GETTING BACK IN,
M. EVANS & CO. NEW YORK, (1976)

LANGLOIS, ELEANOR
"GRADUATE ATTRITION AT BERKELEY"
OFFICE OF INSTITUTIONAL RESEARCH, UNIV OF CALIF., BERKELEY,
(AUG. 1972)

GRADUATE, REASONS
ONE OF THE FEW ATTEMPTS TO STUDY STUDENT ATTRITION AT THE GRADUATE LEVEL. BY MEANS OF A SURVEY, THIS STUDY LOOKS AT WHY GRADUATE STUDENTS LEAVE BEFORE COMPLETING THEIR GRADUATE DEGREE PROGRAM.

NCHEMS TECHNICAL REPORT 74
A MANUAL FOR CONDUCTING STUDENT ATTRITION STUDIES IN INSTITUTIONS OF POSTSECONDARY EDUCATION.
NATL. CENTER FOR HIGHER EDUC. MANAGEMENT SYSTEMS, BOULDER
(1976)

THIS MANUAL PROVIDES A STEP-BY-STEP GUIDE TO CONDUCTING A MAIL SURVEY AIMED AT ASSESSING STUDENTS' REASONS FOR DISCONTINUING THEIR UNDERGRADUATE EDUCATION. INCLUDED ARE SAMPLE QUESTIONNAIRES AND LETTERS, COST ESTIMATES, AND INSTRUCTIONS FOR CODING, PROCESSING, AND ANALYZING THE DATA. AVAILABLE FROM NCHEMS, BOULDER, COLORADO.

NOEL, LEE AND LOIS RENTER
"COLLEGE STUDENT RETENTION, AN ANNOTATED BIBLIOGRAPHY OF RECENT DISSERTATIONS" (1970-MARCH, 1975)
AMERICAN COLLEGE TESTING PROGRAM, IOWA CITY, IOWA (1975)

REFERENCES
DISSERTATIONS CITED IN THIS BIBLIOGRAPHY ARE DIVIDED INTO GROUPS DEALING WITH PUBLIC COMMUNITY COLLEGES, PUBLIC COLLEGES AND UNIVERSITIES, PRIVATE COLLEGES AND UNIVERSITIES, AND OTHER. MOST DISSERTATIONS DEAL WITH STUDYING REASONS FOR ATTRITION AT A SINGLE INSTITUTION. COPIES OF THE BIBLIOGRAPHY ARE AVAILABLE FREE FROM THE AMERICAN COLLEGE TESTING PROGRAM, 2201 NORTH DODGE, P.O.BOX 168, IOWA CITY, IOWA 52240. COPIES OF THE DISSERTATIONS THEMSELVES ARE AVAILABLE FROM UNIVERSITY MICROFILMS, ANN ARBOR, MICHIGAN.

SHULMAN, CAROL HERRNSTADT
"RECENT TRENDS IN STUDENT RETENTION"
AMERICAN ASSOCIATION FOR HIGHER EDUCATION, WASHINGTON, D.C.
(1976)

GENERAL, REFERENCES
AN EXCELLENT CONCISE SUMMARY OF RECENT FINDINGS, PUBLICATIONS, AND RESOURCES RELATED TO COLLEGE ATTRITION. A USEFUL LIST OF SELECTED REFERENCES IS INCLUDED.

SUSLOW, SIDNEY ET. AL.
"STUDENT PERFORMANCE AND ATTRITION AT THE UNIVERSITY OF CALIFORNIA, BERKELEY: A FOLLOW-UP OF THE ENTERING FRESHMAN CLASSES OF FALL 1955 AND FALL 1960"
OFFICE OF INSTITUTIONAL RESEARCH, UNIV. OF CAL., BERKELEY, (1968)

PUBLIC UNIVERSITY, LONGITUDINAL, NUMBERS
THIS STUDY, CONDUCTED IN 1965, EXAMINED THE FALL 1955 AND FALL 1960 FRESHMAN COHORTS. ALONG WITH A LATER STUDY (SEE NEXT REFERENCE), THIS CONSTITUTES ONE OF THE BEST LONGITUDINAL ATTRITION STUDIES PERFORMED AT A SINGLE INSTITUTION. THE METHODOLOGY AND THE FINDINGS ARE CLEARLY STATED. THE AUTHORS EXAMINED OVERALL PERSISTANCE PATTERNS AS WELL AS PERSISTENCE IN AND TRANSFERS AMONG THE VARIOUS COLLEGES AND FIELDS OF STUDY AT BERKELEY. A FOLLOW-UP STUDY OF THE STUDENTS WHO LEFT BERKELEY WAS USED TO ESTABLISH THEIR ACADEMIC PROGRESS SUBSEQUENT TO LEAVING.

SUSLOW, SIDNEY
"PERSISTENCE AND INTERCAMPUS TRANSFER: UNDERGRADUATES AT BERKELEY"
OFFICE OF INSTITUTIONAL RESEARCH, UNIV . OF CAL., BERKELEY, (1975)

PUBLIC UNIVERSITY, LONGITUDINAL, NUMBERS
SIMILAR TO THE STUDY IN THE PREVIOUS REFERENCE, THIS STUDY LOOKS AT THE FRESHMAN COHORTS OF FALL 1955, 1960, AND 1969 THROUGH 1974. THE STUDY WAS CONDUCTED IN THE FALL OF 1975. CHANGES IN PERSISTENCE PATTERNS ARE OBSERVED, OVERALL AND WITHIN COLLEGE PERSISENCE IS EXAMINED, AND A SEPARATE SECTION DEALS WITH THE PERSISTENCE OF JUNIOR TRANSFERS TO BERKELEY. WELL DONE AND HIGHLY RECOMMENDED. AVAILABLE ON REQUEST FROM THE OFFICE OF INSTITUTIONAL STUDIES, U.C., BERKELEY.

SUSLOW, SIDNEY
"BENEFITS OF A COHORT SURVIVAL PROJECTION MODEL" IN
APPLYING ANALYTICAL METHODS TO PLANNING AND MANAGEMENT,
D.S.P. HOPKINS AND R.G. SCHROEDER, EDITORS, JOSSEY-BASS, INC.
SAN FRANCISCO, (1977)

GENERAL
THE AUTHOR EXPLAINS THE DIFFERENCES AMONG THREE ENROLLMENT PROJECTION MODELS: THE USE OF GRADE PROGRESSION RATIOS, MARKOV PROJECTIONS, AND COHORT SURVIVAL PROJECTIONS. THE ADVANTAGES OF THE COHORT SURVIVAL MODELS OVER THE OTHERS ARE DISCUSSED. A SEPARATE SECTION DEALS WITH THE APPLICABILITY OF THE COHORT SURVIVAL METHOD TO STUDENT PERSISTANCE STUDIES.

SUTTLE, J. LLOYD
"ENROLLMENT, ADMISSION, AND THE SUMMER TERM - A REPORT ON THE DEVELOPMENT OF AN ENROLLMENT PLANNING MODEL FOR YALE COLLEGE"
OFFICE OF INSTITUTIONAL RESEARCH, YALE UNIVERSITY, NEW HAVEN, CONN. (1974)

COHORT SURVIVAL CURVES ARE CONSTRUCTED FOR THE FALL 1970 COHORT AND ARE APPLIED AS AN ENROLLMENT PROJECTION TOOL IN A LARGER MODEL.

TERENZINI, PATRICK T. AND ERNEST T PASCARELLA
"VOLUNTARY FRESHMAN ATTRITION AND PATTERNS OF SOCIAL AND ACADEMIC INTEGRATION IN A UNIVERSITY: A TEST OF A CONCEPTUAL MODEL"
RESEARCH IN EDUCATION, VI, PP 15-43 (1977)

PRIVATE UNIVERSITY, CROSS-SECTIONAL, REASONS.
THE AUTHORS STUDY VOLUNTARY WITHDRAWALS FROM ONE COLLEGE OF THE UNIVERSITY IN AN ATTEMPT TO TEST TINTO'S (SEE BELOW) MODEL OF THE EFFECTS OF ACADEMIC AND SOCIAL INTEGRATION ON PERSISTENCE. DISCRIMINANT ANALYSIS IS USED TO ESTABLISH A SET OF VARIABLES FOR DISCRIMINATING BETWEEN PERSISTERS AND NONPERSISTERS. THE PREDICTIVE VALUE OF THESE VARIABLES IS ACKNOWLEDGED TO BE LIMITED, BUT THE STUDY IS A GOOD INDICATOR OF THE COMPLEXITY OF THE INFLUENCES EFFECTING ATTRITION. TWO SUBSEQUENT PAPERS WERE PRESENTED BY THE AUTHORS AT THE 1977 A.I.R. FORUM AND APPEAR IN: CONFLICTING PRESSURES IN POSTSECONDARY EDUCATION, R.H. FENSKE, ED., A.I.R. (1977). BOTH OF THESE LATTER PAPERS DEAL WITH THE FURTHER STUDY OF THE SAME MODEL AND LOOK SPECIFICALLY AT THE EFFECTS OF SOCIAL INTERACTION BETWEEN STUDENTS AND FACULTY ON FRESHMAN ATTRITION.

TINTO, VINCENT
"DROPOUT FROM HIGHER EDUCATION: A THEORETICAL SYNTHESIS OF RECENT RESEARCH"
REVIEWS OF HIGHER EDUCATION, 45, #1 (WINTER '75) PP 89-125

GENERAL, THEORETICAL, REASONS, REFERENCES
THE AUTHOR LOOKS AT EXISTING RESEARCH ON ATTRITION AND PROPOSES A MODEL FOR SYNTHESIZING THE INFORMATION INTO A PREDICTIVE MODEL. HE DIFFERENTIATES BETWEEN VARIABLES RELATED TO ACADEMIC AND TO SOCIAL INTEGRATION OF THE STUDENT INTO THE ACADEMIC ENVIRONMENT, AND THEN EXAMINES THE INDEPENDENT AND COMBINED EFFECTS OF THESE TWO TYPES OF VARIABLES ON ACADEMIC DISMISSALS AND ON VOLUNTARY WITHDRAWALS. A USEFUL BIBLIOGRAPHY OF OVER 100 REFERENCES IS INCLUDED.

WRIGHT, CHARLES R.
"SUCCESS OR FAILURE IN EARNING GRADUATE DEGREES"
SOCIOLOGY OF EDUCATION, VOL. 38, (FALL 1964) PP 73-97.

GRADUATE, LONGITUDINAL

*GO

NON-RETURNING STUDENTS QUESTIONNAIRE

J. David Smith, Ed.D.
Assistant Dean for Freshmen
Widener College

1. Name _____

2. Your Academic Major at Widener was _____

3. At Widener, were you ____ a boarding student
   ____ a commuting student

4. Assuming you applied to more than one college for admission, was Widener College your first, second, third, or fourth choice of colleges to attend?

   1____ first choice of those I applied to.
   2____ second choice of those I applied to.
   3____ third choice of those I applied to.
   4____ fourth choice of those I applied to.
   5____ I applied only to Widener.
   6____ other; please indicate _____

5. Please indicate your sources of financing your education when you attended Widener. Indicate approximate percentages of each source:

   1____ % support from parents
   2____ % your savings from previous work
   3____ % G.I. Bill
   4____ % Widener College Scholarship
   5____ % Widener College Grant-In-Aid
   6____ % State Grant or Scholarship
   7____ % E.O.G. or B.O.G.
   8____ % State Guaranteed Loans
   9____ % Commercial loans
   10____ % Reimbursed by employer
   11____ % College Work Study
   12____ % Full-time employment
   13____ % Part-time employment
   14____ % other; please indicate _____

6. Please indicate the one or two reasons for attending college when you were enrolled at Widener:

   1____ career preparation
   2____ career advancement
   3____ intellectual development
   4____ parent's wishes
   5____ friends attending college
   6____ college social environment
   7____ other; please indicate _____

7. Please indicate the one or two reasons for choosing Widener College:

   1____ location
   2____ available financial aid
   3____ Cadet Corps Program
   4____ specific academic program: indicate _____
   5____ academic reputation of Widener
   6____ friends attending Widener
   7____ fellow employees attending Widener
   8____ other; please indicate _____

8. Who or what influenced you most in choosing to enroll at Widener when you did? (Indicate no more than two)

1____ Widener College Admissions Representative
2____ high school guidance counselors
3____ high school teachers
4____ parents
5____ friends enrolled at Widener
6____ Widener or PMC Alumni
7____ visit to Widener's campus
8____ Widener College professors
9____ Widener College official publications (catalogues, posters, etc.)
10____ other; please indicate _____

9. Please indicate the one or two <u>personal</u> reasons for not returning to Widener:

1____ moved from the Widener College area.
2____ "Stop-out" - My not returning is a planned, temporary leave.
3____ financial considerations -- insufficient funds for college.
4____ poor academic performance or progress.
5____ undecided career objectives.
6____ marriage.
7____ lost interest in college in general.
8____ other; please indicate _____

10. Please indicate the one or two <u>institutional</u> reasons for not returning to Widener:

1____ lack of student activities.
2____ the quality of teaching.
3____ academic program I wanted was not offered.
4____ did not like the housing accommodations.
5____ did not like the food served at MacMorland Center.
6____ academic counseling was not adequate.
7____ personal counseling services were not adequate.
8____ administrators hassled students too much.
9____ the quality of the other Widener students.
10____ other; please indicate _____

11. Overall, do you feel the <u>personal</u> reasons (listed in 9) or the <u>institutional</u> reasons (listed in 10) were primarily responsible for your leaving Widener?

1____ The personal reasons were primarily responsible.
2____ The institutional reasons were primarily responsible.
3____ It was a combination of the two.
4____ other; please indicate _____

12. Regardless of your reasons for leaving Widener, what did you like and dislike most about the college?

Liked Most: _____

_____

Disliked Most: _____

_____

13. Is there one thing Widener could have done to have prevented you from leaving Widener College?

1____ No
2____ No opinion
3____ Yes. Please elaborate: _____

_____

_____

14. Would you recommend Widener College to a friend or relative?

1____ Yes
2____ Unsure
3____ No

15. Please check one response:

1____ I am currently enrolled at another school.
2____ I plan to enroll at another school.
3____ I am not enrolled nor do I plan to enroll at another school.
4____ I have "stopped-out" and plan to return to Widener at a later date.
5____ My plans are uncertain.
6____ other; please indicate _____

_____

16. If you are currently enrolled at another school or plan to enroll at another school, please at what school.

1____ I am currently enrolled at _____
I am majoring in _____
2____ I plan to enroll at _____
I plan to major in _____

17. If you plan or wish to return to Widener College, what can we do to help you return? _____

_____

_____

_____

As best you can recall, please evaluate the following facilities, functions, and activities at Widener College.

	EXCELLENT	ABOVE AVERAGE	AVERAGE	BELOW AVERAGE	POOR	NO OPINION
ACADEMIC LIFE						
(18) Quality of teaching						
(19) Interest shown by professors in your work and progress as a student						
(20) Library and Library services						
(21) Class scheduling convenience						
(22) Academic Counseling						
(23) Classroom facilities						
(24) Laboratory facilities						
(25) Quality of other Widener students						
(26) Help provided by the Academic Dean's office						
(27) Help provided by the Office of Freshman Programs						
STUDENT LIFE						
(28) Opportunity to participate in campus activity						
(29) Cultural events on campus						
(30) Opportunity to participate in intramural athletics						
(31) Varsity athletic events						
(32) Personal counseling services						
(33) Student spirit and involvement						
(34) Entertainment for students on campus						
(35) Student activities at MacMorland Center						
(36) Food services at MacMorland Center						
(37) Recreation facilities at MacMorland Center						
(38) The bookstore						
(39) Movies on campus						
(40) Fraternities/Sororities						
(41) Dormitories						
(42) Help from the Dean of Students office						
(43) Help from the Financial Aids office						
OTHER						
(44) Registration procedures						
(45) Parking accommodations						
(46) Health services						
(47) Attractiveness of campus						
(48) Security on campus						
(49) Help from the Business Office						
(50) Help from the Admissions Office						
Other; (fill in your own).						

Please record any additional comments you care to make on the back of this sheet.

Report to the Dean

Freshman Attrition and Academic Dismissal Study: Class of 1978

Report Prepared By:

J. David Smith, Ed.D.
Assistant Dean for Freshmen
Office of Freshman Programs
Widener College

December 1, 1975

Freshman Attrition Study: Class of 1978

This report presents the results of our study to calculate the rate of attrition for the Class of 1978. It also presents data relevant to the issue of freshman attrition and academic dismissal.

Definitions - For the purpose of this report, the following definitions will be used:

One-Semester Attrition is defined as Class of 1978 freshmen enrolled in the 1974 Fall semester but not enrolled in the 1975 Spring semester.

Second-Semester Attrition is defined as Class of 1978 freshmen enrolled in the 1975 Spring semester but not enrolled in the 1975 Fall semester though eligible to be enrolled.

Two-Semester Attrition is defined as Class of 1978 freshmen enrolled in the 1974 Fall semester but not enrolled in the 1975 Fall semester though eligible to be enrolled.

Class of 1978 freshmen were identified as attrited by a name-by-name comparison of appropriate enrollment rosters provided by Data Processing. This report presents data about Class of 1978 freshmen who entered Widener in the 1974 Fall semester. Class of 1978 freshmen who entered in the 1975 Spring semester are not reflected in this report.

Tables #1, #2, and #3 present the rates of one-semester, second-semester, and two-semester attrition.

Table #1. Rate of One-Semester Attrition: Class of 1978[1]

Number 1978 Freshmen Enrolled Fall 1974	Number 1978 Freshmen Enrolled Fall 1974 But Not Enrolled Spring 1975	Rate of One-Semester Attrition
373	29	7.8%

Table #2. Rate of Second-Semester Attrition: Class of 1978

Number 1978 Freshmen Enrolled Spring 1975	Number 1978 Freshmen Enrolled Spring 1975 and Eligible to Enroll 1975 Fall Semester	Number 1978 Freshmen Eligible to Enroll Fall 1975 But Not Enrolled	Rate of Second-Semester Attrition
344	337[2]	52	15.4%

Table #3. Rate of Two-Semester Attrition: Class of 1978

Number 1978 Freshmen Eligible to Enroll Fall 1975	Number 1978 Freshmen Enrolled Fall 1974 But Not Enrolled Fall 1975 Though Eligible to be Enrolled	Rate of Two-Semester Attrition
366	81	22.1%

Table #4 compares the rate of freshman two-semester attrition at Widener College with the rate of freshman two-semester attrition at all four-year colleges and universities.

Table #4. Rates of Two-Semester Freshman Attrition: Widener College and All Four-Year Colleges and Universities[3]

Widener College	All Four-Year Colleges and Universities
22.1%	22%

[1] For a detailed report of one-semester attrition, see JDS to ATM memorandum of 4/2/75.

[2] Seven Class of 1978 freshmen were dismissed from the College at the conclusion of the 1975 Spring semester for insufficient academic progress. (i.e. Two Semester Q.P.A. of less than 1.0).

[3] Rate of attrition figures for all four-year colleges and universities taken from "College Dropouts: A National Profile," published by American Council on Education, 1972.

Tables #5, #6, and #7 identify the 81 one and two-semester attrited freshmen and the seven dismissed freshmen by academic major (Table #5), grade point average (Table #6), and sex/residence (Table #7).

Table #5. Distribution by Academic Major

Academic Major	# Attrited		#		
	One-Semester	Second-Semester	Dismissed	Total	%
Exploratory Studies and Liberal Arts Undecided	10	14	0	24	27%
Nursing	6	4	0	10	11%
Business	5	11	2	18	21%
Engineering	3	6	1	10	11%
Sciences	3	5	2	10	11%
Humanities	2	7	1	10	11%
Social Sciences	0	5	1	6	7%
	29	52	7	88	99%

Table #6. Distribution by Grade Point Average

Q.P.A.	# Attrited		#		
	One-Semester	Second-Semester	Dismissed	Total	%
3.50 - 4.00	0	1	0	1	1%
3.00 - 3.49	0	8	0	8	9%
2.50 - 2.99	3	10	0	13	15%
2.00 - 2.49	1	14	0	15	17%
1.50 - 1.99	5	12	1	18	21%
1.00 - 1.49	4	6	1	11	13%
1.00	8	0	5	13	15%
Withdrawn	8	1	0	9	10%
	29	52	7	88	101%

Table #7. Distribution by Sex/Residence

	Sex							
	Male		Female					
Residence	One-Semester	Second-Semester	One-Semester	Second-Semester	Dismissed Male	Dismissed Female	Total	%
Boarded	9	18	3	13	3	2	48	55%
Commuted	10	17	7	4	2	0	40	46%
	19	35	10	17	5	2	88	101%
	54		27					

Two-Semester Summary of Table #7 (less dismissed)

Total	#	%		#	%
Male	54	67%	Boarded	43	53%
Female	27	33%	Commuted	38	47%
	81	100%		81	100%

Report Highlights (Summary)

1. Rates of Attrition

The rate of one-semester freshman attrition was calculated as 7.8%. The rate of second-semester freshman attrition was calculated as 15.4%. The rate of two-semester freshman attrition was calculated as 22.1%.

The Widener College two-semester freshman rate of attrition of 22.1% is virtually equal to the rate of two-semester freshman attrition for all four year colleges and universities as reported in a 1972 American Council on Education publication.

2. Academic Majors

30% (24 of 81) of those freshmen who elected not to return for a second semester or a second year indicated Exploratory Studies (ES) or Liberal Arts Undecided (AX) as their academic programs.

20% (16 of 81) of those electing not to return indicated a major in Management/Applied Economics. The academic majors of the remaining 50% (41 of 81) of those freshmen who elected not to return were nearly equally distributed among the other academic centers and groups.

The seven freshmen dismissed from the college after two semesters indicated academic majors in 5 of the 7 possible categories.

3. Academic Success

19% (4 of 21) of the one-semester attrited freshmen achieved academic success (defined as a cumulative Q.P.A. of 2.0 or better). This compares with a one-semester rate of academic success of 69% for all Class of 1978 freshmen.

65% (33 of 51) of the second-semester attrited freshmen achieved academic success compared with a two-semester rate of academic success of 71% of all Class of 1978 freshmen.

51% (37 of 72) of the two-semester attrited freshmen achieved academic success compared with a two-semester rate of academic success of 71% of all Class of 1978 freshmen.

4. Sex/Residence

The percent of male vs. female freshmen who elected not to return for a second semester or a second year was virtually equal to their percent of the entire Class of 1978.

Commuting freshmen who elected not to return for a second semester or a second year accounted for a slightly greater percentage than their percentage of the entire Class of 1978.

The seven dismissed freshmen were found in 3 of the 4 male vs. female, boarder vs. commuter categories.

5. Special Background Freshmen

30% (24 of 81) of the freshmen who elected not to return were admitted as freshmen with "special backgrounds" (see JDS to ATM memoranda of 2/7/75 and 6/11/75). "Special Background" freshmen accounted for 25% of the Class of 1978.

Five of the seven dismissed freshmen were "special-background" freshmen.

6. Questionnaires

Our standard non-returning student questionnaire has been mailed to those Class of 1978 freshmen categorized as "second-semester attrition" freshmen. Results of that survey will be available.

7. Appendices

Appendix A lists Class of 1978 freshmen who elected not to return after one semester.

Appendix B lists Class of 1978 freshmen who elected not to return for a third semester.

Appendix C lists Class of 1978 freshmen who were dismissed from the College for insufficient academic progress.

Distribution

President Moll
Dean Arbuckle
Dean Bloom
Mr. Bowlby
Professor Brown
Mr. Bruce
Mr. Cavin
Professor Conroy
Dean Dower
Mrs. Garrison
Col. Gieseke
Professor Jenkins
Dean Kornfield
Dean Landaiche
Professor L'Armand
Dean Lindsley
Dean Meli
Professor Neaves
Dean Rodney
Mr. Smeigh
Dean Woodside

Appendix A - One Semester Attrition

Class of 1978 freshmen who elected not to return to Widener for the 1975 Spring Semester.

	Name	Major	Q.P.A.	Residence C/B
1.	rd	QP	1.33	C
2.	g	BM	1.38	B
3.	an	ES	0.86	B
4.	on	ES	W	C
5.		ES	W	C
6.		NU	W	C
7.		ES	W	B
8.	rington	EN	0.50	B
9.	d	QB	0.50	B
10.	s	HE	1.63	C
11.	hia	NU	2.50	C
12.	latthew	HH	0.20	C
13.		NU	1.88	C
14.	bert	BM	W	C
15.	ley	ES	2.88	B
16.	eph	BM	0.38	C
17.		BX	0.00	C
18.	t	EN	2.50	C
19.		ES	1.17	B
20.	na	NU	2.25	C
21.		NU	0.25	C
22.	liam	ES	1.63	B
23.	licholas	ES	W	B
24.	las	ES	1.88	B
25.	ael	QB	0.00	C
26.		ES	W	C
27.	t	BM	1.33	B
28.		EN	W	C
29.	y	NU	1.50	B

Appendix B - Second Semester Attrition

Class of 1978 freshmen who elected not to return to Widener for a third semester.

	Name	Major	Q.P.A.	Residence C/B
1.		SY	2.19	B
2.		ES	2.56	B
3.		AX	2.57	B
4.	ıe	ES	1.92	C
5.		HE	2.81	B
6.	ɔh	ES	2.27	C
7.	l	ES	2.21	B
8.	;ley	BM	2.08	C
9.		QB	1.87	C
10.		BM	W	B
11.	l	BE	3.33	C
12.		SB	1.81	C
13.		BM	1.25	B
14.	ınie	SB	2.69	B
15.		HL	2.89	C
16.	t	EN	1.81	C
17.	ıh	ES	1.73	B
18.		ES	2.20	B
19.		NU	3.06	B
20.		EN	1.60	C
21.		QB	3.13	C
22.		HE	2.09	B
23.		ES	3.38	C
24.		BM	2.2[illegible]	B
25.	iam	BA	2.69	B
26.		ES	3.47	B
27.	th	QB	2.31	B
28.		QB	1.64	B
29.		BM	1.21	C
30.	na	NU	2.20	B
31.		BM	2.88	B
32.	a	NU	2.14	B
33.		BA	3.33	B
34.		SP	1.81	C
35.	l	EN	1.71	B
36.	yann	HH	2.94	B
37.	s	EN	2.80	C
38.		ES	1.31	B
39.		BX	2.36	B
40.	d	AX	3.25	B
41.		AX	1.64	C
42.		NU	1.70	B
43.	y	HH	1.81	B
44.		QB	1.36	B
45.	usan	AX	1.44	C
46.		HE	1.33	C
47.		HH	3.07	B
48.	eth	ES	2.46	C
49.	es	EN	2.38	C
50.		SB	3.81	C
51.		BM	2.88	C
52.		EN	2.08	B

Appendix C - Dismissed

Class of 1978 freshmen who were dismissed for insufficient academic progress after two semesters.

	Name	Major	Q.P.A.	Residence C/B
1.	ıele	QB	1.17	B
2.	:hael	SB	0.88	B
3.	·t	BE	0.82	B
4.	ıa-	QB	0.50	B
5.	·n	BM	1.50	C
6.		HH	0.55	B
7.	d	EN	0.82	C

TYPES OF ATTRITION STUDIES

QUESTIONS ASKED	HOW MANY?		WHY?	
METHODOLOGY	SNAPSHORT STUDIES	LONGITUDINAL (COHORT SURVIVAL) STUDIES	STUDIES BASED ON INSTITUTIONAL DATA	STUDIES BASED ON QUESTIONNAIRES
DESCRIPTION	These studies observe overall enrollment figures such as number of students in a given group at one time and the % of those who are attending (or have graduated) at some later time.	Students are associated with a cohort group, (such as Freshmen Cohort of Fall of 'XX). They are then individually traced through a succession of terms to determine their status as a function of time.	Data are compiled on students who persist and other students who drop (or stop) out from such sources as admissions, registrar, dean's offices and other offices. Various data are then correlated with the persistence characteristics of the students in an attempt to identify unusual or at least correlated relationships.	Data are compiled directly from questionnaires (or interviews) completed by persisting and dropout (or stopout) students to determine their impressions of the institution and their relation to it. An attempt is made to identify significant factors affecting attrition rates.
ADVANTAGES	Relatively simple and inexpensive ("Quick and Dirty"). Fulfills current minimum requirements for consumer information.	Provides information not only on dropouts but also on stopouts, duration of stopout, and when students are most likely to dropout or to return. These types of studies also provide information useful in enrollment projections, in such a way that their reliability is independent of variations in the class size. The extensive data base involved is easily usable in a variety of other types of institutional studies.	Data are relatively easy to gather from existing institutional records. Can be helpful in identifying a larger group of "high risk" students who can then be contacted in an attempt to assess their needs and to provide possible assistance.	Information can be gained concerning student attitudes, their perception of the institution, their plans for the future, their reasons for leaving or persisting. Possibly a personality profile of persisting students may be identified which is unique to the insitution.
DISADVANTAGES	Does not differentiate between stopouts and dropouts. Gives no information concerning patterns of attrition. Assume orderly uniform progression of students from class to class.	Requires an extensive and accurate data base which must be updated each semester. It also probably requires programming support and computer facilities available only to larger institutions. The initial time investment is substantial and should not be made unless relatively accurate institutional records are available for building the historical data base.	Institutional data are of limited value in determining the causes of attrition. Even when significant correlations are found between variables, assigning causal meaning can be misleading.	Data is difficult to gather and often subjective. Effects are difficult to separate from one another and seldom result in any clearly warranted action which would effect attrition. The assignment of causal meaning to correlations between characteristics and attrition can be misleading.

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Boston University
October 1977

SUGGESTED DATA ELEMENTS FOR LONGITUDINAL STUDY DATA BASE

CORE INFORMATION (FIXED LENGTH)

I.D. Number	Original Entry Codes	Prior School (H.S. or Coll.)	Current Active/Inactive	Most Recent Marital St.
Name	Yr. & Sem. of Entry	Highest Prior Degree	Current College	Most Recent Resid. Code
Sex	Entry Code	Major Prior to Boston University	Current Degree	Most Recent Proj. Grad.
Racial Origin	Yr. of Grad. Class	Entrance Test Type	Current Major	Cum. Units (Credits)
Date of Birth	Original College	Entrance Test Scores	Current F/P Time	Cum. GPI
Home Zip Code	Original Degree Prog.	# Transf. Units Accepted	Current Contin. Code	No. of Semesters on File
Foreign Student	Original Major	GPI for Transf. Units	Current Class	No. of Courses on File
	Original Fin. Aid Appl.	H.S. or Undergrad. Rank	Current Fin. Aid Appl.	Reason for Termination
	Original Religious Code	H.S. or Undergrad. GPI		Degree Awarded
				Date of Degree

SEMESTERS (VARIABLE LENGTH) ARRAY

Yr. & Sem. Date	Coll. of Reg.	Active/Inactive Code	Class Standing	Appl. for Fin. Aid
# of 1st Course	Degree Prog.	F/P Time Code	(Fr., So., ...)	Assessed Need
# of Courses in Sem.	Major	Contin. Code		Total Aid

COURSES (VARIABLE LENGTH) ARRAY

Yr. & Sem. of Course	Course #	Catalog No. of Course (Coll.-Dept.-Course)	# of Units (Credits)	College of Course
			Grade in Course	

Office of Analytical Studies
Boston University
October 1977

Steps In Running a Student Cohort Survival Study

1. Historical Student Data Base is updated each semester by merging it with Admissions and Registration Files.

2. Extract of Data Elements of Interest is made for the Cohort to be studied. This becomes the smaller working file.

3. Codes related to the status of the students are checked and cleaned up where necessary.

4. Attrition/Persistence statistics are derived for the entire Cohort as well as selected subgroups, such as cohorts in the various colleges.

5. Intrauniversity Transfer patterns among the colleges are derived.

6. Steps 2-5 are repeated for all Cohort groups under study.

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Boston University
October 1977

ORGANIZATIONAL PERSPECTIVES ON SPACE UTILIZATION AND INSTITUTIONAL RETRENCHMENT

Carla Jackson

Hampshire College

The utilization of space promises to become an increasingly important issue for colleges and universities confronted by the prospect of retrenchment necessitated by changing demographic and environmental circumstances. Previously widespread activities directed toward the construction of additional facilities to accommodate expansion of student enrollments and academic programs will be supplanted by efforts to balance declining student numbers, financial revenues, and personnel resources with the efficient utilization of institutional facilities. Some attention has already been focused on cost-efficient approaches to facilities utilization with declining resources, particularly in terms of debt, energy, and maintenance expenditures (Brown, 1977; Kaiser, 1977) but less consideration has apparently been accorded to the organizational implications of space utilization for the institution. This paper represents an effort to delineate some of these latter organizational issues and to suggest a simple but comprehensive approach to their consideration.

A fundamental organizational issue facing colleges and universities involved in retrenchment efforts relates to the messages which are carried by the use, assignment, and condition of space. These messages are conveyed by the configuration of space use to those both within and outside the organization, and they relate to the institution as a social system and to a person's position within the system (Steele, 1973; Ashcraft and Scheflen, 1976). Such spatial communications provide symbolic information in terms of size of space allocation, location of assignment, and condition of surroundings.

Most institutions of higher education have in the past given some attention to spatial messages about themselves, perhaps most notably with regard to the space allocations for their admissions offices. Most colleges and universities attempt to make the admissions office an attractive, spacious setting for prospective applicants and their parents, because this office is an initial, concrete point of contact between them and the institution. The impression that potential students take away from this setting may well color their decision about applying to or matriculating at a particular institution. This can be contrasted with the spatial situation of most financial aid offices, which are traditionally assigned to less desirable locations and smaller spaces than are admissions offices. The financial aid office is generally less visible to outsiders than is the admissions office and is largely involved in serving, rather than recruiting, students. The messages which outsiders take away with them from this office is less crucial to the institution than the communication which may be received from the admissions office.

As institutions become involved in retrenchment efforts, the messages conveyed by space may become increasingly potent to those both within and outside the organization and these communications should accordingly be given some consideration by those involved in the assignment of institutional space. The exteriors of buildings, the condition of landscaping, and the maintenance of interiors are some variables which a college or university may consider in asking itself the following questions: what messages about the institution are conveyed by a commitment to a certain level of maintenance? is this communication congruent with what the institution would like to say about itself? when is it important to devote resources to sustaining an acceptable level of building maintenance and when is it desirable to let a building become dilapidated or rooms go unpainted? are there circumstances in which a spatial image of decline or decay may be acceptable? The answers which an institution will develop to these questions will depend upon the balancing of financial resources and organizational considerations, and they will undoubtedly also reflect its particular history and circumstances.

Another potentially important message conveyed by space relates to the use of offices vacated by personnel reductions. These office spaces may serve as reminders to those within the organization that it is operating with

limited resources and that their positions might be the next to be eliminated. An institution will again have to ask itself some basic questions: should vacated spaces be left empty? can remaining personnel and units be reassigned to or consolidated in other locations? can vacated spaces be used for alternative purposes by the institution? The answers to such questions as these will of course have to be balanced with cost considerations, but the importance of the spatial messages conveyed by them to those within the institution is undeniable.

A second organizational issue to be confronted in assessing the impact of retrenchment upon space utilization relates to the institution's vision and experience of what can and cannot be done with space. An institution's space utilization practices are largely determined by assumptions about how space should be used and by norms about how it has been used. Often these are the product of how the physical resources of a campus have been developed, especially where buildings have been added gradually to the facilities inventory and have been assigned on an ad hoc basis. The exigencies of institutional retrenchment may provide an opportunity to re-examine the total configuration of space on a campus and to determine how its use might be improved in financial and organizational terms, regardless of the historical determinants of space assignments.

Some of an institution's basic assumptions about space assignments may be reevaluated. Does each faculty member really need a private office? are there alternative arrangements which would provide faculty with space for meeting with students and for scholarly research? would open office landscaping be more efficient than private offices for some administrative functions and would this reduce facilities expenditures in the long run? are there sufficient shared meeting spaces to provide for necessary communication among faculty, administration, and students? An institution need not be closed into certain space arrangements simply because they reflect the way things have always been done; and cost considerations relating to retrenchment render some re-examination of space assignments extremely important. An example of a different approach to space utilization can be drawn from the experience of The Evergreen State College in Washington State, although it was not necessitated by institutional retrenchment but by institutional philosophy. Instead of making assignments based upon seniority or department, faculty members are rotated among offices on a year-by-year

basis. The sight of faculty members pushing trolleys with their belongings around campus is a common sight each fall at Evergreen (Ehrmann, 1977). This is not to suggest that other institutions should necessarily follow the example of Evergreen, but that they should consider alternative types of and possibilities for space arrangements.

Many institutions have also been the victims of their own labelling with regard to room utilization categories. Classifications of space, such as classroom, office, and laboratory, are generally used not as descriptive terms but as inflexible imperatives. Admittedly, what can be done with some types of space is limited by structural and cost considerations, but some facilities are more flexible than often believed. It is important to assess what the organization needs and how it can be accomplished, using space as efficiently and creatively as possible. For example, a vacant classroom can be transformed into a needed advising center office by the substitution of some readily available furniture. This type of analysis involves ignoring the initial labels of rooms and looking at space in the context of real needs and possibilities, and it provides for flexibility which may be particularly necessary in a period of retrenchment.

A third organizational issue relating to the spatial implications of institutional retrenchment is the possibility of fulfilling previously unmet space needs. Few institutions of higher education have ever had sufficient facilities to meet all expressed space needs or to solicit new requests for assignments; but the potential availability of space from activities which have been reduced or eliminated also presents some possibilities for the institution. This may provide an opportunity to raise some of the fundamental issues relating to the goals of the institution and how these have been or could be expressed in spatial terms; it may represent a juncture at which to ask where the institution has come from and where it is going and to discuss the implications of these issues for facilities utilization.

An example of the possibilities for fulfilling unmet space needs can be drawn from the experience of Hampshire College. Prior to the opening of the College in 1970, two planning documents were prepared which included specific recommendations about space relating to the design assumptions of the College (Barber et al., 1958; Patterson and Longsworth, 1966). Some of these plans for facilities were actually implemented, such as the creation of a house system for student residences; others were attempted but later

abandoned, such as the effort to intersperse faculty offices by school, and others have not been tried because of space limitations, such as providing office space for upper division students. It is spatial objectives such as this last possibility which seem congruent with the institution's initial vision of itself but which have remained untried because of the constraints of facilities availability. The provision of space for upper division students is one instance where Hampshire could use facilities which might be vacated by other functions, particularly if it provides a means for improving the quality of life for students within the cost constraints imposed by retrenchment. Most institutions of higher education probably have similarly unsatisfied space needs which could be fulfilled by the use of vacated space, if they will examine their particular institutional history and vision.

In addressing the organizational issues relating to the impact of institutional retrenchment on space utilization, a college or university should attempt to develop a coherent framework for collecting facilities information, planning space utilization, and delegating responsibility for space administration:

Development of a Facilities Information System. Any attempt to examine the organizational issues involved in space utilization with decreasing resources should be predicated upon a comprehensive system for the collection, maintenance, and retrieval of information about institutional facilities. Two types of information about institutional facilities should be included in a space information system.

One type of data relates to traditional statistics on square footage and room use, which provide a basis for some internal institutional decision-making about space and the information necessary to complete federally-mandated facilities reports (see Wood, 1970). Although such information can be manually maintained, a computerized system provides for flexibility and retrievability, and some examples of possible computerized reports are attached. Perhaps most important is a room-by-room inventory of institutional space, providing information about room name, room type, organizational unit, number of stations, and net area (following Romney, 1974). Several types of reports can be readily prepared from this basic data, including space utilization by room type and room utilization by program

classification and by building. In addition, other types of analyses can be prepared as needed, such as space allocations by administrative unit, faculty office assignments by school or department, and scheduled classroom space utilization (Jackson, 1977a). This type of data defines the spatial parameters within which it is necessary to operate and provides a framework for comparative analysis of space allocations within the institution.

A second type of information about institutional facilities is concerned with the actual, in contrast to the assigned, use of space, and it is a necessary supplement to the "hard" data in providing a comprehensive understanding of space utilization. One way of collecting such information is for administrators involved in making facilities allocations to get out on their campuses on a regular basis to look at how space is being used. The floor plans and the room inventories which an institution maintains are reflections of formal understandings about space, but often they present an inaccurate or incomplete picture of actual space use. For example, observation may reveal a space which has been assigned as a classroom but from which furniture has disappeared, indicating that it is probably not functioning as assigned, or a previously open student lounge area on which a lock has been installed, suggesting the exercise of proprietary rights over the space by some group or individual. This is not the type of information which is readily available except by direct observation. Where the actual utilization of a particular space is in question, it may be useful to conduct an informal survey of room use. This can be accomplished by selecting a number of random times at which to observe the use of the space, probably several times daily over a period of a week or two, and hiring a student worker to go to the room at the selected times to observe what is occurring there and how many persons are involved. Another informal source of information about space use which can be particularly valuable is the custodial staff of the institution, because they usually have reliable information about the use of space, either by observing it directly in the course of their work or indirectly in terms of maintenance requirements. Taken together with more traditional information about the use of space, these types of informal data provide a comprehensive perspective on the use of institutional facilities.

Planning for Space Utilization. While it seems apparent that the exigencies of institutional retrenchment demand planning with regard to the cost effectiveness of facilities utilization, it should be noted that planning is equally necessary in considering organizational issues relating to space use in a period of declining resources. Planning in this context means the specification of approaches to the attainment of desired objectives; it involves the articulation of goals and the discussion of how to achieve them. The planning process should involve the consideration of what messages about the institution are conveyed by space, of new and creative ways to use space, and of possibilities for fulfilling previously unmet space needs. The process of planning should give direction for the assignment of institutional space, by providing and defining objectives for facilities use and by articulating the environmental and organizational constraints on space allocations (see Bennis, 1973).

A collective vision of desired goals for space utilization seems particularly important for an institution involved in retrenchment efforts where there may be considerable potential for change. It seems particularly important to provide for the inclusion of various institutional subunits in the space planning process, especially where they are directly affected by modifications in space assignments. It should be remembered that with space planning, as with other types of institutional planning, "...if the procedure through which a planning system is implemented violates the principles of participation on which the system is based, the consequence can only be rejection and informal resistance among those affected" (Richardson et al., 1977). The planning process should allow for those concerned to articulate their interests and to have them considered by the institution.

The timing of space planning should also be given some attention. It seems essential to undertake planning efforts in advance of the anticipated implementation of space changes, but how long in advance will depend upon the particular needs of the institution, the availability of relevant information, and the planning norms of the organization. Planning should be timed to allow for consultation with affected users of space and for consideration of alternative perspectives; it should be conducted without the appearance of a crisis-like atmosphere, which is often associated with increased financial and organizational costs.

Responsibility for Space Administration. Although it is important to involve potential users of facilities in space planning, it is also necessary to delegate responsibility for the administration of space to the incumbents of certain positions within the organization. Delegation of responsibility provides for the potential development of expertise by some administrators in dealing with space issues and for the consideration of space requests in the context of overall institutional space needs. Those involved with space administration should be able to weigh some of the conflicting demands for space, provide concrete information about facilities utilization, minimize the application of particularistic criteria in space decisions, and negotiate conflicts about space assignments. There are a number of organizational models which could fulfill these requirements, and an individual institution is probably best suited to select the model which will meet its particular needs while satisfying these general conditions. However, any organizational model which is selected should include at least one senior administrator in the decision-making process, in recognition of the overall importance of space utilization questions and because unresolved space issues are frequently appealed upward in the hierarchy. Under these circumstances, some expertise in the area of space utilization is essential at the highest levels of the institution as well as for those involved with day-to-day space administration.

A final example may serve to emphasize the significance of organizational issues in space utilization and the need to develop institutional mechanisms for their consideration. Founded in 1933 as an experimenting institution in North Carolina, Black Mountain College was initially housed in summer camp facilities leased from a religious organization. Each spring the college was literally packed away to prepare for the summer campers and each fall it was reconstructed after their departure. After several years in this location, the College obtained financing to construct its own campus a short distance away from the original site. However, many of the students and faculty found this move to be somewhat less than completely successful. The new facilities seemed less architecturally unified than the camp buildings, the physical setting was closer to distracting influences than the old location, the excitement of reconstructing the campus each fall

was lost, and some of the experimenting vision of the institution was destroyed (Duberman, 1973). Although many institutions will be moving in the opposite direction from the Black Mountain of the thirties, in contracting rather than expanding their facilities, the Black Mountain experience suggests the importance of space utilization to how an institution views itself.

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A Sample Facilities Inventory

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ABBR	BLDG TYPE	ROOM NUMBER	INST. NAME OF UNIT	INST CODE	ORG. UNIT	INST. NAME OF ROOM	ROOM TYPE	ROOM STATION	NET AREA	#/C
COLE	A	0116	ADMINISTRATION		6.6	OFFICE	310		160	0.00
COLE	A	0117	ADMINISTRATION		6.6	OFFICE	310		160	0.00
COLE	A	0118	ADMINISTRATION		6.6	OFFICE	310		240	0.00
COLE	A	0119	ADMINISTRATION		6.6	OFFICE	310		240	0.00
COLE	A	0120	ADMINISTRATION		6.6	OFFICE	310		160	0.00
COLE	A	0121	ADMINISTRATION		6.3	OFFICE	310		240	0.00
COLE	A	0122	ADMINISTRATION		6.3	OFFICE	310		240	0.00
COLE	A	0123	ADMINISTRATION		6.3	OFFICE	310		160	0.00
COLE	A	0124	ADMINISTRATION		6.3	OFFICE	310		160	0.00
COLE	A	0129	INSTRUCTION		1.1	SOLVENT STOR	730		132	0.00
COLE	A	0130	INSTRUCTION		1.1	SOLVENT STOR	730		132	0.00
COLE	A	0201	INSTRUCTION		1.1	LABORATORY	210		6050	0.00
COLE	A	0202	INSTRUCTION		1.1	CLASSROOM	650		340	0.00
COLE	A	0203	INSTRUCTION		1.1	OFFICE	310		240	0.00
COLE	A	0204	INSTRUCTION		1.1	OFFICE	310		180	0.00
COLE	A	0205	INSTRUCTION		1.1	OFFICE	310		180	0.00
COLE	A	0206	INSTRUCTION		1.1	OFFICE	310		180	0.00
COLE	A	0207	INSTRUCTION		1.1	OFFICE	310		180	0.00
COLE	A	0208	INSTRUCTION		1.1	OFFICE	310		180	0.00
COLE	A	0209	INSTRUCTION		1.1	OFFICE	310		180	0.00
COLE	A	0210	INSTRUCTION		1.1	OFFICE	310		180	0.00
COLE	A	0211	INSTRUCTION		1.1	OFFICE	310		180	0.00
COLE	A	0212	INSTRUCTION		1.1	OFFICE	310		240	0.00
COLE	A	0301	INSTRUCTION		1.1	LABORATORY	210		6333	0.00
COLE	A	0302	INSTRUCTION		1.1	CLASSROOM	650		340	0.00
COLE	A	0303	INSTRUCTION		1.1	OFFICE	310		180	0.00
COLE	A	0304	INSTRUCTION		1.1	OFFICE	310		180	0.00

PL3813 HAMPSHIRE COLLEGE "ROOM UTILIZATION BY PROGRAM CLASSIFICATION" 9/23/77 PAGE 2

ROOM TYPE	ROOM USE CATEGORY	TOTAL ASSIGNABLE	P130 UNKNOWN	CLASSIFICATIONS 0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0
590	OTHER (ALL PURPOSE)	4,242			1,700					2,542			
500	SPECIAL-USE FACILITIES	34,534			10,512			540	20,940	2,542			
610	ASSEMBLY	5,301			5,301								
615	ASSEMBLY SERVICE	530			530								
620	EXHIBITION	2,140						2,140					
625	EXHIBITION SERVICE	436						436					
630	FOOD FACILITIES	4,138							4,030	108			
635	FOOD FACILITIES SERVICE	2,334							2,334				
650	LOUNGE	12,288			864				11,924	380			
660	MERCHANDISING FACILITIES	1,066								1,066			
665	MERCHANDISING FACIL. SERVICE	420								420			
670	RECREATION	7,720			348				7,372				
675	RECREATION SERVICE	588							588				
680	MEETING ROOM (SEE ALSO 350)	20,308							20,308				
600	GENERAL-USE FACILITIES	57,269			7,063			2,576	45,656	1,974			
720	SHOP	876								876			
725	SHOP SERVICE	166								166			
730	STORAGE	2,809			656		182			1,971			
745	VEHICL-STORAGE-FACIL SERVICE	973								973			
700	SUPPORTING FACILITIES	4,824			656		182			3,986			
850	TREATMENT	204							204				
860	SERVICE LABORATORY	80							80				
880	PUBLIC WAITING	221							221				
895	HEALTH CARE SERVICE	50							50				
800	HEALTH CARE FACILITIES	555							555				
910	SLEEP/STDY WITHOUT TOILT/BATH	57,120							57,120				
915	TOILET/BATH	10,160							10,160				
935	SLEEP/STUDY SERVICE	1,341							1,341				
950	APARTMENT	118,201							102,814	15,387			
955	APARTMENT SERVICE	1,076							1,076				
970	HOUSE	7,753							2,302	5,451			
900	RESIDENTIAL FACILITIES	195,651							174,813	20,838			

PL0302 HAMPSHIRE COLLEGE SPACE UTILIZATION ... PAGE

MONTAGUE HALL	[illegible]	SQ.FT.
FRANKLIN PATTERSON HALL	5,094	SQ.FT.
PHYSICAL PLANT BUILDING	354	SQ.FT.
PRESCOTT HOUSE	2,724	SQ.FT.
STILES HOUSE	1,721	SQ.FT.
WARNER HOUSE	1,359	SQ.FT.
310 - OFFICE	35,416	SQ.FT.
315 =		
ADELE SIMMONS HALL	253	SQ.FT.
COLE SCIENCE CENTER	210	SQ.FT.
DAKIN HOUSE	194	SQ.FT.
EMILY DICKINSON HALL	425	SQ.FT.
DAKIN MASTER HOUSE	30	SQ.FT.
LEZNICKI BUILDING	53	SQ.FT.
MERRILL HOUSE	292	SQ.FT.
MERRILL MASTER HOUSE	30	SQ.FT.
PHYSICAL PLANT BUILDING	1,038	SQ.FT.
PRESCOTT HOUSE	312	SQ.FT.
STILES HOUSE	637	SQ.FT.
WARNER HOUSE	56	SQ.FT.
315 - OFFICE SERVICE	5,643	SQ.FT.
350 =		
JOHNSON LIBRARY CENTER	409	SQ.FT.
MONTAGUE HALL	176	SQ.FT.
FRANKLIN PATTERSON HALL	1,200	SQ.FT.
STILES HOUSE	325	SQ.FT.
350 - CONFERENCE ROOM(OFFICE RELATED)	2,110	SQ.FT.

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Space Utilization by Program Type

PLJ813 HAMPSHIRE COLLEGE ROOM UTILIZATION BY PROGRAM CLASSIFICATION 9/28/77 PAGE 3

ROOM TYPE	ROOM TYPE CATEGORY	TOTAL ASSIGNABLE	P130 UNKNOWN	CLASSIFICATIONS 0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0
	********** FINAL TOTALS **********												
	1.0 INSTRUCTION PROGRAM	75,258											
	2.0 ORGANIZED RESEARCH												
	3.0 PUBLIC SERVICES	350											
	4.0 ACADEMIC SUPPORT	21,444											
	5.0 STUDENT SERVICES	248,995											
	6.0 INSTITUTIONAL SUPPORT	44,129											
	7.0 PLANT OPERATIONS	480											
	8.0 UNASSIGNED	3,113											
	9.0	412											
	FINAL TOTAL	394,181 SQ. FEET											

80

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INVESTIGATING THE STRUCTURE OF FACULTY WORK WITH CLUSTER ANALYSIS*

Daniel L. Kegan

Amherst, MA

Resource allocation and academic planning tend to consider academic discipline as the basic unit of analysis. Although Hampshire College has interdisciplinary Schools rather than single-disciplinary departments, disciplinary considerations still are critically important. Demands for additional faculty in various disciplines exceed the available resources for contract renewal and new hiring. With Hampshire's interdisciplinary Schools and the possibility for cross-disciplinary faculty interaction, the question was raised whether School and disciplinary boundaries actually represented the structure of collegiate programs and faculty work, or whether another unit of analysis would be more appropriate.

To address this question, a cluster analysis of faculty interaction on student learning contracts was conducted. Such student initiated, faculty approved learning contracts (officially termed Divisional Examinations) are the sole measure of academic progress at Hampshire. In effect, each student designs with faculty advice his/her own curricular program. Although courses are offered, they are ungraded and students receive no credit for courses. On upper division contracts (roughly comparable to junior and senior years), there must be at least two faculty examiners. Students freely choose which faculty they wish on their contracts; faculty may accept or refuse to serve on a student's examination committee. Thus, faculty participation on learning contracts is a quite direct and valid representation of the structure of the enacted academic program of the College.

*Trina Hosmer and Bob Gunter of the University of Massachusetts Computing Center helped encourage the Hampshire College data tapes into and through the UMass computer; Carla Jackson provided the Cumulative Teaching FTE data; Rich Alpert initiated this line of inquiry; and Adele Durham skillfully assisted with the preparation of this report.

Report #R17, presented at the Fourth Annual Meeting of the North East Association for Institutional Research, Durham, NH, 28 October 1977.

METHOD

As of 12 March 1976 the College's official computer record listed 1306 completed upper Division Examinations. Due to initial computer program limitations, only 98 faculty names could be clustered. However, these 98 names accounted for 92% of exam chairpersonships; omitted were faculty with short term appointments at the College.

A computer prgram (WITHWHO) was written by the author to construct a 98 by 98 matrix, to search the file of completed examinations, and to tally within the matrix the number of times each faculty pair served together on an Examination Committee. This matrix became the source data for the cluster analysis program BMDP2M (Dixon, 1975).

A cluster analysis can be seen as a statistical procedure for dividing a group of people into successively smaller clusters, and evetually into individuals. (Actually, the statistical procedure is the opposite. It starts with individuals, and amalgamates them into larger and larger clusters. In thinking about the results of cluster analysis, however, I have found it helpful to think of the total group being dis-amalgamated into smaller clusters.) For a group of 49 people, there will be 49 levels of dis-amalgamation: the first level will contain one group of 49 people, the second level will contain two groups, and the forty-ninth level will contain the 49 separate individuals.

The full cluster analysis of 98 faculty is rather complicated. An abridged cluster analysis is discussed here for ease of comprehension and presentation. This abridged analysis includes half the faculty of the full cluster analysis, those having more than 25 examinations.

RESULTS

Descriptive names for the clustered groups for 1 to 7 levels of dis-amalgamation of the abridged cluster analysis are presented in Table 1.

The second level dis-amalgamation indicates that if the faculty were to be divided into two groups on the basis of collaboration on upper division examinations, then those two groups would be the School of Humanities and Arts on the one hand, and the rest of the faculty on the other. The next most separate group is the School of Natural Sciences. Natural Science resists dis-amalgamation for seven levels, but then divides into two groups.

(This shows in Table 2, but not in Table 1.) There appears to be no clear disciplinary distinction between these two Natural Science groups, the difference appears to be more one of style. A strong interdisciplinary cluster is that of Photography and Anthropology, a combination unexpected by the traditional uses of each discipline but understandable when considering Hampshire's photographic perspectives. Language and Communication does not cluster as a School. Their smaller size contributes to this, but a stronger factor is their clear interdisciplinary collaboration.

The abridged cluster analysis indicates that some of the major groupings of faculty in terms of their actual collaboration on upper division examinations do follow School and disciplinary lines. This need not be the result of a cluster analysis. Faculty could have clustered in groups defined by their length of time at the College, by teaching style, by political orientation, or by other less easily described characteristics.

Table 2 presents the complete abridged cluster analysis for 49 faculty. The format of this cluster analysis is inverted from the "family tree" format of Table 1. The first horizontal line at the bottom of Table 2 connects the two nodes of the second level of dis-amalgamation. All the vertical and horizontal lines extending from the right end of that first line define one of the two groups of the second level of dis-amalgamation. Following the lines from that right end, like a maze to the top of the table, yields faculty member code numbers and disciplines from 33-Literature to 29-Art, that is the Hamanities and Arts cluster. This (vertical) format of the cluster analysis is a good one for seeing and defining clusters at various levels of dis-amalgamation.

Table 3 presents the same abridged cluster analysis in a different (horizontal) format. This format is better for seeing the relationship of individuals within clusters.

The full cluster analysis of 98 faculty found that some of the major groupings of faculty in terms of their actual collaboration did follow School and disciplinary lines. Some faculty members are not sharply separated from their colleagues, but others do form clearly identifiable clusters by discipline. Mathematics, physics, and economics form fairly easily defined discipline groups. Other groups are harder to describe. Faculty with few exams may be "pulled" along with other faculty with many exams, some faculty may collaborate with a wide range of other faculty: both make description of some clusters harder.

In addition to ease of description, clusters may be termed tighter or broader. Referring to Table 1, Natural Science may be termed a tight cluster, whereas the social sciences form much broader clusters. Whether a tight cluster is desirable is a matter of criteria and interpretation. A tight cluster of several faculty probably indicates the existence of a colleagual support group. However, a faculty member in a tight cluster may not be engaging in as much interdisciplinary examination activity as was hoped in initial College policy (Patterson & Longsworth, 1966). Faculty with high rates of completed exams per cumulative teaching FTE but without a tight cluster are contributing toward interdisciplinary work of students, but are probably also suffering some strain from lack of colleagual support.

Preparation of the 98 by 98 matrix of faculty collaboration tallies permitted additional analyses of faculty work indices. Both the number of exams chaired and the number of committee memberships are highly correlated with the total number of exams completed: $r=0.89$ and 0.88. However, chairpersonships and memberships are only moderately correlated with one another, $r=0.56$, accounting for a third of the variance. Moreover, the number of exams completed is only slightly correlated with the adjusted cumulative teaching FTE, $r=0.34$, accounting for only a tenth of the variation in total exams completed. Clearly, other factors contribute toward faculty service of upper division exams besides length of time at the College or formally devoted towards teaching.

DISCUSSION

Organizational and policy analyses generally use pre-established categories focusing on the formal structure for analysis. While this is often sufficient, a different picture might emerge with analyses including informal social relations or developing empirically out of the behavioral data of the organization (cf. Calder, Rowland, & Leblebici, 1976; Grose, 1976; Jones & Young, 1972).

Cluster analysis may be used to investigate the structure of many areas of college or university life. It reflects the actual, enacted choices of students or faculty rather than the formal structure of policy or tradition. Analysis of faculty interaction on doctoral dissertations would indicate the extent of faculty service beyond the home department. Analysis of student courses would indicate the curriculum clusters actually enacted at the college. Analysis of faculty interaction may also be used as a guide for faculty and organization development programs.

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